ORDER NO. VSD9202M619

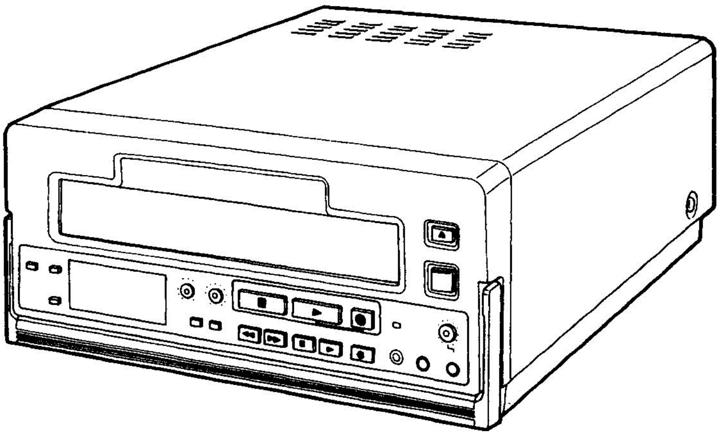
Service Manual

Video Cassette Recorder

Panasonic S-VHS Hi-Fi 625

AG-5700-E -B

Sec. 1	*Operating Instructions*
Sec. 2	*Disassembly Procedures, Maintenance, Mechanical Adjustment & Electrical Adjustment*
Sec. 3	*Block Diagrams*
Sec. 4	*Schematic Diagrams & Circuit Board Diagrams*
Sec. 5	*Exploded Views & Replacement Parts Lists*



Panasonic

SPECIFICATIONS

ITEM	SPECIFICATION
Power	Source: AC 220 V~240 V, 50~60 Hz Consumption: Approx. 26 W
Television Format	CCIR Standard (625 lines, 50 fields)
Tape Speed	23.39 mm/s
Tape Format	VHS tape, S-VHS tape
Recording Playback Time	180 min. with NV-E180
FF/REW Time	Approx. 3 min. with NV-T120
Video	Head: 2 rotary heads, helical scanning system
	Luminance: FM azimuth recording
	Colour signal: Comverted subcarrier phase shift recording
	Input Level: VIDEO IN (BNC); 1.0 Vp-p 75Ω unbalanced S-VIDEO (4P); Y: 1.0 Vp-p, 75Ω unbalanced C: 0.3 Vp-p, 75Ω unbalanced (burst level)
	Output level: VIDEO IN (BNC); 1.0 Vp-p 75Ω unbalanced S-VIDEO (4P); Y: 1.0 Vp-p, 75Ω unbalanced C: 0.3 Vp-p, 75Ω unbalanced (burst level)
	Signal-to-Noise Ratio: 45 dB (B/W, colour)
	Horizontal Resolution: VHS; 240 lines (B/W, color) S-VHS; 400 lines (b/w, color)

ITEM	SPECIFICATION
Audio	Head: Normal Audio/Control; 1 stationary head Hi-Fi Audio; 2 rotary heads Erase; 1 full track erase 1 Audio track erase
	Track: Hi-Fi; 2 ch Normal; 1 ch
	Input Level: AUDIO IN (PHONO); −8 dBv, 47 kΩ unbalanced MIC IN (Mini Jack); −60 dB, 600Ω
	Output Level: AUDIO OUTPUT (PHONO); −8 dBv, 1 kΩ unbalanced HEADPHONE (M3); 8Ω
	Frequency response: Normal; 80 Hz~10 kHz Hi-Fi; 20 Hz~20 kHz
	Hi-Fi Dynamic Range: 90 dB
	Signal-to-Noise Ratio: 45 dB (Normal)
Remote	Mini Jack (FRONT), RS-232C (REAR)
Operating Condition	Temperature: 41°F~104°F (5°C~40°C) Humidity: 35%~80%
Dimensions	10-5/8" (W)×4-1/16" (H)×13-5/16" (D) 270 mm (W)×120 mm (H)×340 mm (D)
Weight	Approx. 12.5 lbs 5.7 kg
Standard Accessory	S-VIDEO Cable (4P)
Optional Accessory	Remote Controller, AG-A11

Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

INTRODUCTION

This Service Manual contains all the technical information which allows service personnels to understand and service the Panasonic S-VHS Video Cassette Recorder model AG-5700. The AG-5700 has many special Features as described later.

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads connectors, control shafts,etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M ohm and 5.2 M ohm.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

LEAKAGE CURRENT HOT CHECK
(See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5k ohm, 10 watts resistor, in parallel with a 0.15uF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

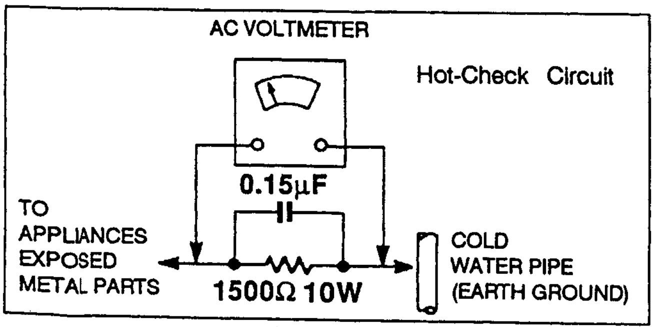
AC VOLTMETER
Hot-Check Circuit
0.15μF
TO APPLIANCES EXPOSED METAL PARTS
1500Ω 10W
COLD WATER PIPE (EARTH GROUND)

Figure 1

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
   Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device classified as anti-static can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package untilimmediately before you are ready to install it. (Most replacementES devices are packaged with leads eletcrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all otner asfety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

Section 1

OPERATING INSTRUCTIONS
and
SERVICE INFORMATIONS

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OPERATING INSTRUCTIONS

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1-1 Features

Recording and playback up to 3 hours

Using a 1/2" inch VHS or S-VHS cassette tape, you can record or playback in 3-hour mode.

Recording and playback in the S-VHS mode

With this unit, it is available to playback and record S-VHS cassette tape.

Illuminated buttons

The REC, PLAY and STOP buttons will light up when pressed.

Hi-Fi audio

Compact and light weight

Remote controlling by a computer

Connecting this unit to a computer via an RS-232C cable will allow remote control from the computer.

Sensor recording

This unit is equipped with the "SENSOR REC" function. When a video signal transmitted from a satellite is inputted, the unit will turn ON automatically and set to the recording mode.

Speedy Mechanism

The following operations start instantly after the corresponding buttons are pressed.

- Playback operation
- FF/REW operations
- Switching from search forward playback to search reverse playback, and vice versa.

Repeat playback

Repeat playback can be performed from tape beginning to its end or from tape beginning to interruption of the video signal.

Search playback

Locating any desired scene or position on the tape is made easy and fast by watching the tape being played back at about 7 times normal speed in forward or reverse direction.

High speed VISS (VHS Index Search System) Automatic Search

During playback, if a VISS signal has been recorded at the beginning of an event, the scene can be searched and then played back automatically.

Clear picture in still and slow-motion modes

Audio dubbing

Audio dubbing can be performed onto the normal audio of the prerecorded tape.

Video Insert

Video insert (including FM audio insert) is available by the control signals from the RS-232C remote control connector.

Cassette tape insertion/ejection in power OFF mode

Cassette tape insertion and ejection can be performed even when the power has been turned OFF.

Auto power ON

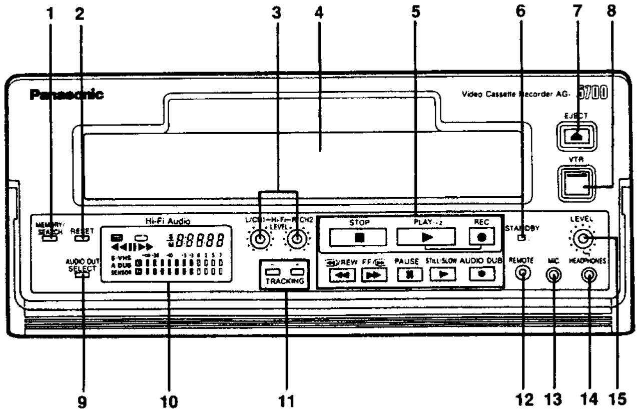
Power is turned ON automatically when the cassette tape is inserted in the unit.

Remote operation

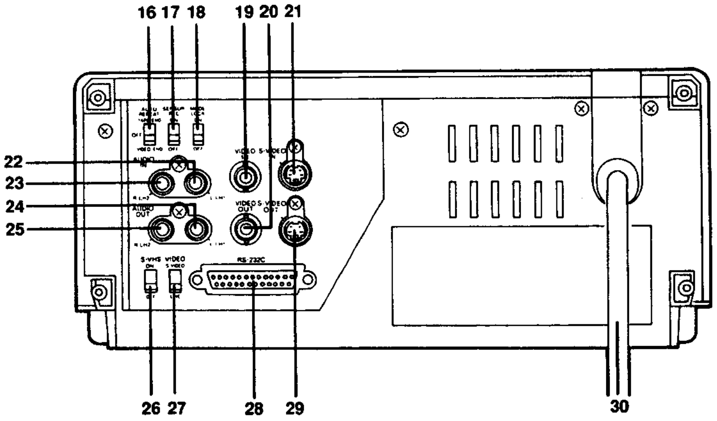
Using an optional remote controller AG-A11, you can operate the unit about 5 meters away from the unit.

Controls

Front


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
Panasonic
Video Cassette Recorder AG-
EJECT
VTR
MEMORY/SEARCH
RESET
AUDIO OUT SELECT
Hi-Fi Audio
LEVEL
STOP
PLAY
REC
STANDBY
REW
FF
PAUSE
STILL/SLOW
AUDIO DUB
TRACKING
REMOTE
MIC
HEADPHONES

Rear


16 17 18
19 20 21
22
23
24
25
26 27
28
29
30
AUDIO IN
AUDIO OUT
VIDEO
S-VIDEO
S-VHS
RS-232C

No.	Name
1	Memory/Search Button
2	Reset Button
3	Hi-Fi Audio CH1/CH2 Level Controls
4	Cassette Holder
5	Operation Buttons STOP, PLAY, REC, REW, FF, PAUSE, STILL/SLOW, AUDIO DUB
6	Standby Lamp*1
7	Eject Button

*1 Standby Lamp lights up when VTR Switch is OFF.

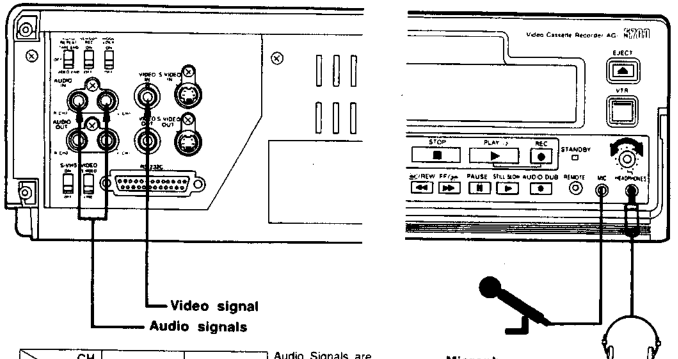
No.	Name
8	VTR Switch
9	Audio Monitor Output Selector
10	Counter/Audio Level Meters
11	Tracking Buttons
12	Remote Jack (Mini-Jack)
13	Microphone Jack
14	Headphone Jack (Mini-Jack)
15	Headphone Level Control

No.	Name
16	Auto Repeat Switch
17	Sensor Recording Switch
18	Mode Lock Switch
19	VIDEO IN Connector (BNC)
20	VIDEO OUT Connector (BNC)
21	S-VIDEO IN Connector
22	Audio L/CH1 IN Connector (PHONO)
23	Audio R/CH2 IN Connector (PHONO)

No.	Name
24	Audio L/CH1 OUT Connector (PHONO)
25	Audio R/CH2 OUT Connector (PHONO)
26	S-VHS Selector
27	Video Selector
28	RS-232C Remote Control Connector
29	S-VIDEO OUT Connector
30	Power Cord

1-3 Recording and Playback

Recording



CH / Audio Input	Hi-Fi	Normal
L/CH1	L/CH1*1	L/CH1
R/CH2	R/CH2*2	R/CH2
L/CH1 & R/CH2	Stereo (L/CH1 & R/CH2)	Mixed Audio (L/CH1 & R/CH2)

Audio Signals are recorded as described on the table.

*1: Audio L/CH1 is recorded on both L/CH1 and R/CH2.

*2: Audio R/CH2 is recorded on both L/CH1 and R/CH2.

Microphone
(audio recorded as Hi-Fi audio and normal audio)

Note:
If connections are made both to the MIC and audio jacks, the microphone takes precedence.

Audio Monitoring

When using headphones, you can adjust the volume using this control. To reduce the audio level, move the control to the left, and vice versa.

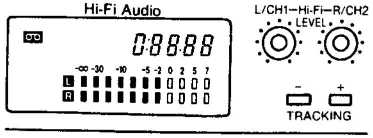
- Use headphones. (mini plug)
- If you use high impedance headphones, the audio level may change.

Preparations

- Load the pre-recorded cassette tape. (Check that the tab on the cassette to prevent accidental erasure is still intact.) The STOP Button and the cassette IN indicator " ▭ " (in the counter) will light up.
- Set the S-VHS Selector and the Video Selector on the rear panel to the desired position.

Audio Level Adjustment (Hi-Fi sound only)

The audio level can be adjusted only for Hi-Fi audio. Adjust the Hi-Fi Audio Level Controls so that the audio level meter indication is set to around 2 (so that the 2 level is not exceeded).



Operation

Recording starts when the REC and PLAY Buttons are pressed together.

- A cassette tape without its accidental erasure prevention tab will be ejected. Use a tape with its tab intact.

When the PAUSE Button is used, the sequence of operation is as follows.

❶ Play back the tape and find the location which is to be recorded. Then press the PAUSE Button. The PAUSE indicator will appear on the tape counter and VTR is set to the playback pause mode.

❷ Press the REC and PLAY Buttons together. The REC Lamp now comes on and the VTR is set to the recording pause mode.

❸ When the PAUSE Button is pressed again, the VTR is released from the pause mode and recording begins.

Stopping Recording

Press the STOP Button.

Playback

Preparations

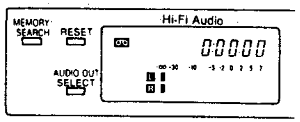
- Press the VTR Switch to ON.
- Be sure that the Mode Lock Switch is OFF.
- Be sure that the Auto Repeat Switch is OFF.
- Insert a recorded tape.
  The STOP Button and the cassette IN indicator " ▭ " (in the counter) will light up.
- Turn TV ON.

Audio Monitor Output Selector

Set the Audio Monitor Output Selector to the desired position.

When this unit is turned ON, the Hi-Fi mode is automatically selected. Each time you press the Audio Monitor Output Selector, the audio output mode will change as follows:

Hi-Fi → L CH → R CH → No indication(Linear)



Mode Lock Switch

This switch makes it impossible to operate the switches on the front panel.

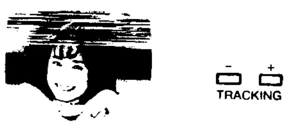
When it is set to ON, all the switches on the front panel do not function. However, operation is available using the wired remote controller or the RS-232C remote control signal even if the Mode Lock Switch is set to ON.

This unit cannot be recorded or played back in LP mode. Therefore, be sure not to playback tapes recorded in LP mode.

Normal Playback

Press the Play Button. Play Lamp lights and playback will start.

As this unit is equipped with the digital automatic tracking function, normally adjustment is unnecessary. If noise partially appears in the playback picture as shown below, press the Tracking "+" and "–" Buttons simultaneously to reduce the noise.



Precautions

If you leave this unit near a monitor television, interference from the monitor television may cause noise to get into the audio circuit. Be sure, therefore, to keep the unit a suitable distance (at least 20 cm) away from a monitor television.

Double-speed Playback

Press the PLAY Button during normal playback. The playback picture can be viewed at about twice normal playback speed. To return to normal playback, press the PLAY Button.

Slow Motion Playback

Press the SLOW Button during playback. The playback picture can be viewed at a lower speed. Each time you press the STILL/SLOW button, the unit will run at one of the slow motion speeds shown below. To return to normal playback, press the PLAY Button.

Normal Speed→ Still→ 1/30→ 1/20→ 1/10→ 1/7→ 1/5

- If slow motion playback continues for over 5 minutes, the unit will go into the stop mode automatically.
- No sound is heard during slow motion playback.

1-4 Counter

Rewind and Fast Forward the tape

When the unit is in stop mode:
Press the Rewind (REW) Button to rewind the tape.
Press the Fast Forward (FF) Button to move the tape forward rapidly.

Search Playback

- When the FF Button is held down while the unit is in the playback, slow motion playback or still, the tape will be played back in the forward direction at about 7 times normal speed.
- When the Rewind Button is held down while the unit is in the playback, slow motion playback or still, the tape will be played back in the reverse direction at about 7 times normal speed.

When the Memory/Search Button is pressed and "S" display appears in the counter, search forward or reverse playback can be obtained without keeping the FF or REW Button depressed.

- To release the Search Forward/Reverse manually, see page 10, section "Search".
- If this function is maintained for more than 10 minutes, the unit automatically returns to the previous mode.
- No sound is heard during SEARCH mode.
- Colour programme may be played back in Black and White or playback image may be dark during SEARCH mode, but this is not a malfunction.
- A skew may occur on the picture during SEARCH mode, but this is not a malfunction.
- When the picture rolls vertically in the SEARCH mode, adjust the vertical hold control on the TV set.

Still Playback

Press the Pause Button during normal playback or during slow motion playback. Press the Pause Button once again to resume normal playback.

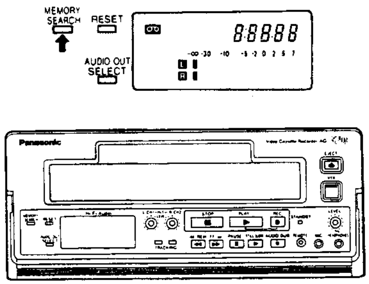
- If noise appears during still playback, set for slow motion mode and adjust with the Tracking Buttons (either "+" or "–") to minimize the bands of noise as shown below, then press the Pause Button.

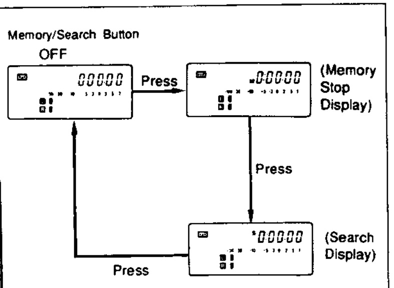
- If still playback continues for more than 5 minutes, the unit will go into the stop mode automatically.
- A distortion may occur on the picture during STILL mode, but this is not a malfunction.
- No sound is heard during STILL mode.
- Colour programme may be played back in Black and White or playback image may be dark during STILL mode, but this is not a malfunction.

After Finishing Playback

Press the Stop Button to stop the playback.

Memory/Search Button
When the Memory/Search Button is pressed, display will be changed.

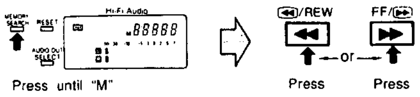




* Search Display is indicated only when the cassette tape is inserted.

Memory Stop

When the Memory/Search Button is pressed and the "M" display lights on the counter, the tape can be stopped near counter digit "0000" during FF or REW modes.

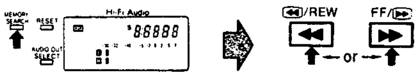


* Press until "M" will appear.

Auto Stop near counter digit "00.00"

Search

When the Memory/Search Button is pressed until the "S" display lights on the counter display, and the FF or REW button is pressed during normal playback or still playback, search forward or reverse playback can be held for about 10 minutes. Thereafter, the unit will automatically return to the previous mode.

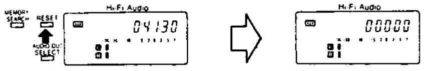


Press until "S" will appear.

REW or FF mode for about 10 min.

Counter Reset

If you press the reset button when "S" is not displayed, the counter indication will become "00000".



Press

- **To release the Search Forward/Reverse manually, proceed as follows:**

❶ Press the Play Button. The unit will go into the following mode.

Previous Mode	Subsequent Mode
Still Playback	→ Still Playback
Normal Playback	→ Normal Playback

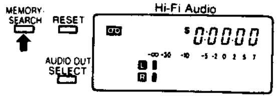
❷ Press the Memory/Search Button to clear the "S" display. The unit will go into the previous mode.

❸ Press the Stop Button. The unit will go into the stop mode.

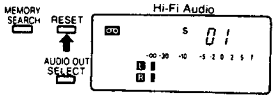
VISS (VHS Index Search System)

VISS signal is recorded at the beginning of each recording. Every time the recording starts, VISS signal is recorded automatically at the beginning (including external timer recording). Moreover, VISS signal can be recorded manually by pressing the Record and Play Buttons simultaneously during recording. When the VISS signal is recorded at the beginning of each recording, it is available to select a desired scene easily.

❶ Press the Memory/Search Button and light the "S" indication.


MEMORY SEARCH
RESET
AUDIO OUT SELECT
Hi-Fi Audio
S 0:00.00

Press the Reset Button to set to VISS mode. Each time the button is pressed, index number 01 to 20 can be selected.


MEMORY SEARCH
RESET
AUDIO OUT SELECT
Hi-Fi Audio
S 01

❷ Press the FF or REW Button.
- The index number will increase one by one each time a VISS signal is found.
- Playback starts automatically when the number becomes to zero.
- The fast forward or rewinding speed is a little slower comparing to the normal FF/REW speed.

Intro Search

Press the Memory/Search Button and display the "S" indication in the counter display. When a VISS signal is found during FF operation, the tape is played back for about 10 seconds. Each time a VISS signal is found during FF operation, this function will repeat. Press the Play Button twice when desired scene is found. (If Play Button is pressed only once, the tape will playback in double-speed.)

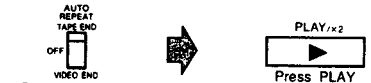
Repeat Playback

Repeat playback between tape beg. and tape end

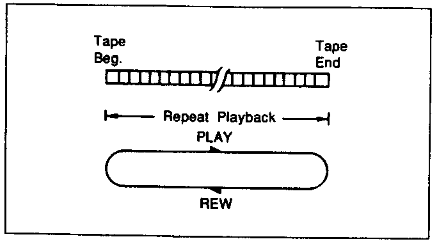
If it is desired to play back the tape repeatedly from tape beginning to tape end, proceed as follows:

❶ Set the Auto Repeat Switch to the "TAPE END" position.

❷ Press the Play Button.


AUTO REPEAT
TAPE END
OFF
VIDEO END
PLAY/×2
Press PLAY

Set the Auto Repeat Switch to "TAPE END".

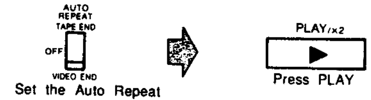

Tape Beg.
Tape End
Repeat Playback
PLAY
REW

Repeat playback between tape beg. and video end

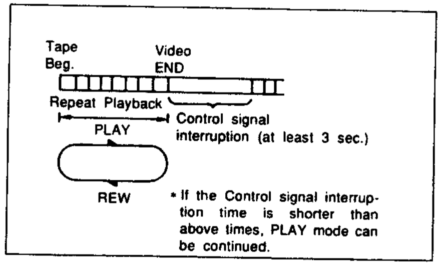
If it is desired to play back the tape repeatedly from tape beginning to interruption of the video signal, first make sure that video recording on the tape is interrupted for at least 3 seconds (see diagram).

❶ Set the Auto Repeat Switch to the "VIDEO END" position.

❷ Press the Play Button.


AUTO REPEAT
TAPE END
OFF
VIDEO END
PLAY/×2
Press PLAY

Set the Auto Repeat Switch to "VIDEO END".


Tape Beg.
Video END
Repeat Playback
Control signal interruption (at least 3 sec.)
PLAY
REW
• If the Control signal interruption time is shorter than above times, PLAY mode can be continued.

Notes:
- If short repeat playback is continued many times, the repeated section of tape may be damaged.
- NV-E240 type cassettes are not recommended for Repeat Playback use.

Sensor Recording

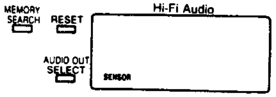
Sensor Recording System

Operate the unit by following the procedure below to record the video signal transmitted from a satellite.

❶ Set the Sensor Recording Switch to "ON".

SENSOR REC
ON
OFF

The indication "SENSOR" will appear in the counter and the unit is set to the recording stand-by mode after the unit is automatically turned OFF.


MEMORY SEARCH
RESET
AUDIO OUT SELECT
Hi-Fi Audio
SENSOR

Note:
The indication "SENSOR" will flash when no tape is inserted or tape with broken removable tab is inserted.

❷ When the unit receives a video signal, the power is automatically turned ON and the recording starts. The recording stops at the tape end or when there is no more video input signal, and the unit is turned OFF again.

(4) Command list

1) BASIC OPERATION COMMAND (KEY COMMAND)

■ **KEY COMMAND**

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
OSP (STOP)	All operations will stop, and the VTR will enter the STOP mode.	[STX]OSP[ETX]	[STX]OSP[ETX]
OEJ (EJECT)	The cassette will be ejected.	[STX]OEJ[ETX]	[STX]OEJ[ETX]
OPL (PLAY)	This is the playback command. Playback takes place at normal speed only when the VTR is in the STOP, FF, REW, REVERSE, PLAY, SLOW or SLOW PAUSE mode.	[STX]OPL[ETX]	[STX]OPL[ETX]
ORW (REWIND)	This is the REW or REVIEW command. If the VTR is in the STOP or FF mode, it will go into the REW mode when this command is input. If the VTR is in the PLAY, PLAY PAUSE, REVERSE PLAY, SLOW or SLOW PAUSE mode, it will go into the REVIEW mode. However, it is necessary to continuously input this command at intervals of no more than 50 msec in order to sustain the REVIEW mode.	[STX]ORW[ETX]	[STX]ORW[ETX]
OFF (FAST FORWARD)	This is the FF or CUE command. If the VTR is in the STOP REW mode, the VTR will go into the FF mode when this command is input. If the VTR is in the PLAY, PLAY PAUSE, REVERSE PLAY, SLOW or SLOW PAUSE mode, it will go into the CUE mode. However, it is necessary to continuously input this command at intervals of no more than 50 msec in order to sustain the CUE mode.	[STX]OFF[ETX]	[STX]OFF[ETX]
OPA (PAUSE)	This is the pause or pause cancel command. If the VTR is in the PLAY, REVERSE PLAY or SLOW mode, it will go into the PLAY PAUSE mode. If it is in the REC mode, it will go into the REC PAUSE mode. If the VTR is in the SLOW PAUSE mode, it will go into the PLAY PAUSE mode, however the operation of the VTR will not change. If the VTR is in the INSERT, AUDIO VIDEO INSERT or AUDIO DUB mode, it will go into the PLAY PAUSE mode. If it is in the PLAY PAUSE mode, it will go into the PLAY mode. If it is in the REC PAUSE mode, it will go into the REC mode. If it is in the INSERT PAUSE mode, it will go into the INSERT mode. If it is in the AUDIO DUB PAUSE mode, it will go into the AUDIO DUB mode. If it is in the AUDIO VIDEO INSERT PAUSE mode, it will go into the AUDIO VIDEO INSERT mode.	[STX]OPA[ETX]	[STX]OPA[ETX]
ORC (REC)	This is the recording command. When the VTR is in the STOP mode, it will go into the REC mode, and when it is in the PLAY PAUSE or SLOW PAUSE mode, it will go into the REC PAUSE mode. However, if the cassette tab is broken, the VTR will go into the EJECT mode.	[STX]ORC[ETX]	[STX]ORC[ETX]

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
OAF (ADVANCE FIELD)	This is the field advance (forward direction) command. It advances the tape one frame at a time when the VTR is in the PLAY PAUSE or SLOW PAUSE mode.	[STX]OAF[ETX]	[STX]OAF[ETX]
OAR (ADVANCE REVERSE FIELD)	This is the field advance (reverse direction) command. It moves the tape in the reverse direction one frame at a time when the VTR is in the PLAY PAUSE or SLOW PAUSE mode.	[STX]OAR[ETX]	[STX]OAR[ETX]
OPR (REVERSE PLAY)	This is the reverse play command. If the VTR is in the PLAY, PLAY PAUSE, SLOW or SLOW PAUSE mode, it will go into the REVERSE PLAY mode.	[STX]OPR[ETX]	[STX]OPR[ETX]
OSL (SLOW MODE SET)	This command is used to perform pre-processing before controlling the slow speed. Input this command once only before sending the OSD or OSU command. If this command is input when the VTR is in the STOP, PLAY, REW, FF, PLAY PAUSE, REVERSE PLAY or SLOW mode, the VTR will go into the SLOW PAUSE mode. Subsequently, the VTR will accept the OSD or OSU command.	[STX]OSL[ETX]	[STX]OSL[ETX]
OSD (SPEED DOWN)	This command controls the playback speed in the – direction.	[STX]OSD[ETX]	[STX]OSD[ETX]
	–7, –5, –2, –1, –1/5, –1/7, –1/10, –1/20, –1/30, SLOW PAUSE, +1/30, +1/20, +1/10, +1/7, +1/5, +1, +2, +5, +7 ← OSD command Each time an OSD command is sent, the speed setting will shift in the direction. Send this command at intervals of at least 150 msec. If the speed is at the maximum value (–7 times normal speed), it will not shift any further.		
OSU (SPEED UP)	This command controls the playback speed in the + direction.	[STX]OSU[ETX]	[STX]OSU[ETX]
	–7, –5, –2, –1, –1/5, –1/7, –1/10, –1/20, –1/30, SLOW PAUSE, +1/30, +1/20, +1/10, +1/7, +1/5, +1, +2, +5, +7 → OSU command Each time an OSU command is sent, the speed setting will shift in the direction. Send this command at intervals of at least 150 msec. If the speed is at the maximum value (+7 times normal speed), it will not shift any further.		

■ INSERT COMMAND

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
EIN (INSERT)	This is the insert pre-processing command. If this command is sent when the VTR is the PLAY PAUSE or SLOW PAUSE mode, the VTR will go into the INSERT/PAUSE mode. When the VTR is in the AUDIO DUB PAUSE mode, it will go into the AUDIO VIDEO INSERT PAUSE mode. Subsequently, when the OPA command is sent, an INSERT operation will take place. If the cassette tab is broken, the VTR will go into the EJECT mode when the EIN command is sent.	[STX]EIN[ETX]	[STX]EIN[ETX]
EAD (AUDIO DUB)	This is the pre-processing command for the audio dubbing. If this command is sent when the VTR is in the PLAY PAUSE or SLOW PAUSE mode, the VTR will go into the AUDIO DUB/PAUSE mode. Subsequently, when the OPA command is sent, the AUDIO DUB operation will take place. If the cassette tab is broken, the VTR will go into the EJECT mode when the EAD command is sent:	[STX]EAD[ETX]	[STX]EAD[ETX]
EIT: DATA	This command specifies an insert up to the specified position. If this command is input when the VTR is in the PLAY PAUSE, SLOW PAUSE or INSERT PAUSE mode, a VIDEO insert operation will take place to the specified counter position. When the tape reaches the position specified by DATA, the insert operation will end, and the VTR will go into the PLAY PAUSE mode. This operation can be canceled by an OSP command. If the operation mode changes as a result of a key input from the VTR proper or the remote controller, the insert operation will be canceled. When a command other than OSP, QCD, QOP, QOS, RCK, QRV or QID is sent by an EIT command during an insert operation, a command error will be returned from the VTR.	[STX]EIT: □□□ □□□□□ [ETX] **Counter data** □ □ □□ □□ □□ Sign Hours Minutes Seconds Frames –: Minus sign +: Blank Example: When an insert operation is performed up to 1 hour, 12 minutes, 35 seconds and 00 frames [STX]EIT:_1123500[ETX] Be sure to insert a blank.	[STX]EIT[ETX]
EAT: DATA	This command specifies an audio dubbing up to the specified position. If this command is input when the VTR is in the PLAY PAUSE, SLOW PAUSE or AUDIO DUB PAUSE mode, an audio dubbing operation will take place to the specified position. When the tape reaches the position specified by DATA, the audio dubbing operation will end, and the VTR will go into the PLAY PAUSE mode. This operation can be canceled by an OSP command. If the operation mode changes as a result of a key input from the VTR proper or the remote controller, the audio dubbing operation will be canceled. When a command other than OSP, QCD, QOP, QOS, RCK, QRV or QID is sent by an EAT command during an audio dubbing operation, a command error will be returned from the VTR.	[STX]EAT: □□□ □□□□□ [ETX] **Counter data** □ □ □□ □□ □□ Sign Hours Minutes Seconds Frames –: Minus sign +: Blank Example: When an audio insert operation is performed up to 1 hour, 12 minutes, 35 seconds and 00 frames [STX]EAT:_1123500[ETX] Be sure to insert a blank.	[STX]EAT[ETX]

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
EVT: DATA	This command specifies an AUDIO & VIDEO INSERT up to the specified position. If it is sent when the VTR is in the AUDIO DUB PAUSE or AUDIO & VIDEO INSERT PAUSE mode, an AUDIO & VIDEO INSERT operation will take place up to the specified position. When the tape reaches the position specified by DATA, the AUDIO & VIDEO INSERT operation will end, and the VTR will go into the PLAY PAUSE mode. This operation can be canceled by an OSP command. If the operation mode changes as a result of a key input from the VTR proper or the remote controller, the AUDIO & VIDEO INSERT operation will be canceled. When a command other than OSP, QCD, QOP, QOS, RCK, QRV or QID is sent during EVT in AUDIO & VIDEO INSERT operation, a command error will be returned from the VTR.	[STX]EVT: □□□ □□□□□ [ETX] **Counter data** □ □ □□ □□ □□ Sign Hours Minutes Seconds Frames –: Minus sign +: Blank Example: When an audio insert operation is performed up to 1 hour, 12 minutes, 35 seconds and 00 frames [STX]EVT:_1123500[ETX] Be sure to insert a blank.	[STX]EVT[ETX]

Precaution:

- If the VTR proper goes into the Memory Stop mode during an insert operation (EIN, EVT, EIT), it will cut off when the counter reading becomes "0:00.00.00". Be sure, therefore, to cancel the Memory Stop mode in advance. An insert operation will also be interrupted when a VTR key, remote controller key, Memory/Search button or Reset button is operated, so do not operate these keys or buttons during an insert operation.

■ SEARCH COMMAND

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
SMC (SEARCH MODE COARSE)	This command sets the mode in which a search is performed by the SCP or SCS command to the High Speed Search mode. The search time can be reduced by performing a search in the FF or REW mode, however in this case the search accuracy falls off. If high search accuracy is required, use the following SMF command. If this command is sent, the VTR will be maintained in the COARSE mode until SMF is sent.	[STX]SMC[ETX]	[STX]SMC[ETX]
SMF (SEARCH MODE FINE)	This command sets the mode in which a search is performed by the SCP or SCS command to the Precision Search mode. The shuttle search speed is controlled according to the distance to the target, and the search accuracy is ±1 frame. If this command is sent once, the VTR will go into the FINE mode and remain in that mode until SMC is sent. **Precaution:** In this mode, a search is performed by CUE or REVIEW, hence a search cannot be performed for more than 10 minutes (more than 70 minutes on the tape). Processing is interrupted mid-way in order to protect the tape.	[STX]SMF[ETX]	[STX]SMF[ETX]

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
SCP: DATA	This command searches for the position specified by DATA, then puts the VTR into the PLAY mode at the end of the search. The search takes place in the mode specified by the SMC or SMF command. It is accepted if the VTR is in the STOP, PLAY, REW, FF, PLAY PAUSE, REVERSE PLAY, SLOW PAUSE or SLOW mode. The search can be canceled by means of the OSP or OEJ command. It will also be canceled if the operation mode changes as a result of a key input from the VTR proper or the remote controller. If a command other than OSP, OEJ, QCD, QOP, QOS, RCK, QRV or QID is sent during a search operation, a command error will be returned from the VTR.	[STX]SCP: □□□ □□□□□ [ETX] **Counter data** □ □ □□ □□ □□ Sign Hours Minutes Seconds Frames –: Minus sign +: Blank Example: A search takes place up to –1 hour, 12 minutes, 35 seconds and 00 frames, then the tape is played back. [STX]SCP: –1123500[ETX]	[STX]SCP[ETX]
SCS: DATA	This command searches for the position specified by DATA, then puts the VTR into the SLOW PAUSE mode at the end of the search. It is accepted if the VTR is in the STOP, PLAY, REW, FF, REVERSE PLAY, SLOW, PLAY PAUSE or SLOW PAUSE mode. The search takes place in the mode specified by the SMC or SMF command. It can be canceled by means of the OSP or OEJ command. It will also be canceled if the operation mode changes as a result of a key input from the VTR proper or the remote controller. If a command other than OSP, OEJ, QCD, QOP, QOS, RCK, QRV or QID is sent during a search operation, a command error will be returned from the VTR.	[STX]SCS: □□□ □□□□□ [ETX] **Counter data** □ □ □□ □□ □□ Sign Hours Minutes Seconds Frames –: Minus sign +: Blank Example: A search takes place up to 1 hour, 12 minutes, 35 seconds and 00 frames, then the picture freezes. [STX]SCS:_1123500[ETX]	[STX]SCS[ETX]
SPT: DATA	This command causes playback to take place up to the specified position, then stop when a PAUSE command is input. It is accepted when the VTR is in the STOP, REW, FF, PLAY, REVERSE PLAY, SLOW, PLAY PAUSE or SLOW PAUSE. If a command other than OSP, OEJ, QCD, QOP, QOS, RCK, QRV or QID is sent by SPT command during a play operation, a command error will be returned from the VTR. Playback will be canceled if the operation mode changes as a result of a key input from the VTR proper or the remote controller.	[STX]SPT: □□□ □□□□□ [ETX] **Counter data** □ □ □□ □□ □□ Sign Hours Minutes Seconds Frames –: Minus sign +: Blank	[STX]SPT[ETX]

- **SHUTTLE COMMAND**

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
OSF: DATA (SHUTTLE FORWARD)	This is the forward direction shuttle command. It enables the playback speed to be varied between STILL and +7 times normal speed. If this command is sent when the VTR is in the STOP, REW, FF, PLAY, REVERSE PLAY, SLOW, PLAY PAUSE or SLOW PAUSE mode, playback will take place at the speed specified by DATA. This operation can be canceled by means of the OSP or OEJ command. It can also be canceled by means of a key input from the VTR proper or the remote controller. If a command other than OSP, OEJ, OSF, OSR, QCD, QOP, QOS, RCK, QRV or QID is sent during a shuttle operation, a command error will be returned from the VTR.	[STX]OSF: □ [ETX] The relationship between the data of □ and the playback speed of the VTR is shown in the table below.	[STX]OSF[ETX]
OSR: DATA (SHUTTLE REVERSE)	This is the reverse direction shuttle command. It enables the playback speed to be varied between STILL and –7 times normal speed. If this command is sent when the VTR is in the STOP, REW, FF, PLAY, REVERSE PLAY, SLOW, PLAY PAUSE or SLOW PAUSE mode, playback will take place at the speed specified by DATA. This operation can be canceled by the OSP or OEJ command. It can also be canceled by means of a key input from the VTR proper or the remote controller. If a command other than OSP, OEJ, OSF, OSR, QCD, QOP, QOS, RCK, QRV or QID is sent during a shuttle operation, a command error will be returned from the VTR.	[STX]OSR: □ [ETX] The relationship between the data of □ and the playback speed of the VTR is shown in the table below.	[STX]OSR[ETX]

OSF:

Data of □	Playback speed of VTR
0	STILL
1	+1/30
2	+1/5
3	+1
4	+2
5	+7

OSR:

Data of □	Playback speed of VTR
0	STILL
1	–1/30
2	–1/5
3	–1
4	–2
5	–7

- **Power function**

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
POW	This command is used to turn the power ON and OFF. Normally, the VTR accepts it at any time. However, it is not accepted while EVT, EAT, EIT, SPT, SCS, SCP, OSR, OSF or CCL is being processed. (This is because the VTR cannot accept commands other than OSP or OEJ while EVT, EAT EIT, SPT, SCS, SCP, OSR, OSF or CCL is being processed.) The power ON/OFF operation can be controlled by a toggle. However, if the VTR is turned OFF during REW, the tape will be wound to the beginning then the power will be cut off.	[STX]POW[ETX]	[STX]POW[ETX]
PON	This command turns the power ON.	[STX]PON[ETX]	[STX]PON[ETX]
POF	This command turns the power OFF. The VTR can accept POF at any time apart from when EVT, EAT, EIT, SPT, SCS, SCP, OSR, OSF or CCL is being processed. However, if a command is sent during REW, the VTR will wind the tape to the beginning then the power will be cut off.	[STX]POF[ETX]	[STX]POF[ETX]

■ Reading various statuses

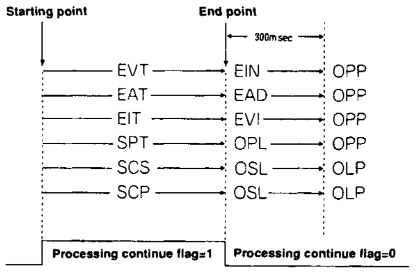
Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
QOP (OPERATION MODE)	This command inquires of the operation mode of the VTR. The VTR returns the following code by means of the QOP code.	[STX]QOP[ETX]	[STX]☐☐☐[ETX]

Operation mode of VTR	Code	Operation mode of VTR	Code
POWER OFF	POF	CUE	OSF
STOP	OSP	REV	OSR
EJECT	OEJ	SLOW	OSL
REWIND	ORW	SLOW PAUSE	OLP
FAST FORWARD	OFF	PLAY TO FRAME	SPT
RECORD	ORC	INSERT VIDEO TO FRAME	EIT
REC PAUSE	ORP	INSERT AUDIO TO FRAME	EAT
AUDIO DUBBING	EAD	INSERT AUDIO & VIDEO TO FRAME	EVT
A-DUB PAUSE	EAP	COUNTER CALIBRATE	CCL
PLAY PAUSE	OPP	PLAY	OPL
INSERT	EIN	REVERSE PLAY	OPR
INSERT PAUSE	EIP	×2 PLAY	OP2
AUDIO & VIDEO INSERT	EVI	REVERSE ×2 PLAY	OM2
AUDIO & VIDEO INSERT PAUSE	EVP	DIRECT SEARCH	OF☐
			OR☐

■ Precautions for executing a QOP command

- Any command other than the SMC, SMF, QOP, QOS, QCD, QRV, QID, CRT or RCK command causes the mode of the VTR to change. If QOP is executed immediately after a command is sent, processing inside the VTR will not end completely, hence the previous mode will be returned from the VTR. To prevent this, wait for at least the time necessary for the mode to change, that is, about 300 msec., before sending the QOP command.
- If EVT, EAT, EIT, SPT, SCS or SCP is sent, the VTR will perform processing according to the particular command that was sent. If EVT, EAT, EIT or SPT was sent, the VTR will finally go into the PLAY PAUSE mode at the specified counter position. If SCS or SCP was sent, the VTR will go into the SLOW PAUSE mode. This process is shown in the figure below.

■ Return data sent from the VTR in response to a QOP command



QOS commands are often used to ask the VTR regarding the situation of processing using these commands. For this reason, the timing between the commands and processing continue flag is also shown in the above table.

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
QOS (OPERATION STATUS)	This command inquires of the processing state of the VTR. The VTR transmits the internal processing state in the form of a bit map, as shown in the following table. The communications format divides the data of TABLE 1 into the upper four bits and the lower four bits, enabling the data to be returned in the sequence upper data of ADRS 0, lower data of ADRS 0, upper data of ADRS 1, lower data of ADRS 1, ..., after [STX] OPS, as indicated by the following data. Four bits of this data can be expressed in hexadecimal form (0, 1, 2, ... E, F), converted into ASCII code, and returned. Example: Bit map: 0 1 0 0 1 0 1 0 Hexadecimal expression: 4 A ASCII code: 34H 41H	[STX]QOS[ETX]	[STX]OPS☐1☐2☐3☐4☐5☐6☐7☐8☐9☐10[ETX] ☐1 —— DATA ADRS0H ☐2 —— DATA ADRS0L ☐3 —— DATA ADRS1H ☐4 —— DATA ADRS1L ☐5 —— DATA ADRS2H ☐6 —— DATA ADRS2L ☐7 —— DATA ADRS3H ☐8 —— DATA ADRS3L ☐9 —— DATA ADRS4H ☐10 —— DATA ADRS4L

TABLE 1 INTERNAL PROCESSING DATA

(Inscription method 1/0)

Address	7	6	5	4	3	2	1	0
DATA ADRS 0	0	0	0	0	0	0	0	0
DATA ADRS 1	Processing interruption	Processing continue	0	0	0	0	0	0
DATA ADRS 2	REC INHIBIT TAB	CASSETTE IN	VV	0	VTR STATUS			
DATA ADRS 3	0	0	0	0	0	0	0	0
DATA ADRS 4	0	Indeterminate	Indeterminate	Indeterminate	0	0	0	0

Processing interruption:	Means that processing of the EVT, EAT, EIT, SPT, SCS, SCP, OSR, OSF or CCL command (continue command) is interrupted for some reason or other. When processing is interrupted, the bit becomes "1", and is held at "1". If the above continue command is sent once again, this flag will be cleared.
Processing continue:	Means that processing of the EVT, EAT, EIT, SPT, SCS, SCP, OSR, OSF or CCL command (continue command) is being continued. While processing is taking place, the bit is "1". When processing ends or if it is interrupted, the flag is cleared.
REC INHIBIT TAB:	If the tab on the cassette is broken, the bit becomes "1".
CASSETTE IN:	If the tape is inserted, the bit becomes "1".
VV:	Means that the VTR has switched over to the playback screen. While the playback screen appears, the bit is "1".
VTR STATUS:	Refer to the following table on the next page.

TABLE 2 VTR STATUS DATA

BIT3~BIT0	VTR STATUS	BIT3~BIT0	VTR STATUS
1, 1, 1, 1	INSERT PAUSE OR AV INSERT PAUSE	0, 1, 1, 1	POWER OFF
1, 1, 1, 0	INSERT OR AV INSERT	0, 1, 1, 0	SLOW
1, 1, 0, 1	AUDIO DUB PAUSE	0, 1, 0, 1	CUE
1, 1, 0, 0	AUDIO DUBBING	0, 1, 0, 0	REVIEW
1, 0, 1, 1	RECORDING PAUSE	0, 0, 1, 1	FAST FORWARD
1, 0, 1, 0	RECORD	0, 0, 1, 0	REWIND
1, 0, 0, 1	PLAY PAUSE, SLOW PAUSE	0, 0, 0, 1	———
1, 0, 0, 0	REVERSE *2 PLAY, REVERSE PLAY, PLAY, *2 PLAY	0, 0, 0, 0	STOP

This QOS command enables the execution state of the following commands to be checked by means of BIT6 and BIT7 of DATA ADRS1 which is part of the receive data that is returned after this QOS command is sent.

COUNTER SEARCH	[STX]SCS: ☐☐☐☐☐☐☐☐[ETX] [STX]SCP: ☐☐☐☐☐☐☐☐[ETX]
PLAY TO FRAME	[STX]SPT: ☐☐☐☐☐☐☐☐[ETX]
INSERT TO FRAME	[STX]EAT: ☐☐☐☐☐☐☐☐[ETX] [STX]EIT : ☐☐☐☐☐☐☐☐[ETX] [STX]EVT: ☐☐☐☐☐☐☐☐[ETX]
DIRECT SEARCH	[STX]OSF: ☐[ETX] [STX]OSR: ☐[ETX]
COUNTER CALIBRATE	[STX]CCL[ETX]

These commands require a certain amount of time to be processed, and processing does not end at the same time. They can be checked by performing the following processing with the personal computer.

Processing example:
First, one of the above commands is sent. As a result, the processing continue flag becomes "1" when the VTR starts processing, hence when the QOS command is sent, processing can be accepted correctly. If then the QOS command is sent periodically, and the processing continue flag and the processing interrupt flag are checked, it is possible to know whether processing ended normally or was interrupted mid-way.

	Processing interrupt flag	Processing continue flag
Processing being continued	0	1
Processing interrupted	1	0
Processing ended	0	0

The following are possible reasons for a processing interruption.

- Operation was performed from the front.
- The tape end and beginning was detected.
- The CUE or REVIEW limit time (10 minutes) was exceeded.
- An abnormality occurred in the VTR.

Precaution
Commands, apart from the following, that are sent from the personal computer will not be processed correctly for a period of at least 150 msec., even if the processing continue flag becomes 0. Wait for at least 150 msec. before sending the following commands.

- Commands that can be accepted as soon as the processing continue flag becomes 0.
  SMC, SMF, QOP, QOS, QCD, QID, QRV, RCK

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
QCD	This command inquires of the value of the present counter. The VTR can reply at any time. Example: Counter value: 1 hour; 25 minutes; 15 seconds; 10 frames Search mode: FINE [STX]CDFS ⊤1251510[ETX] Blank	[STX]QCD[ETX]	[STX]CD☐1☐2☐3☐4 ☐5☐6☐7☐8☐9☐10[ETX] ☐1: SEARCH MODE COASE; C FINE; F ☐2: Indeterminate **Counter data** ☐3: Sign –; – sign +; Blank ☐4: Hours ☐5: Minutes ☐6 ☐7: Seconds ☐8 ☐9: Frames ☐10

■ Other commands

Send command	Description of operation	Personal computer send data	Reply data sent back from VTR
CRT	This command resets the counter. If the power is ON while the VTR is executing a command other than EVT, EAT, EIT, SPT, SCS, SCP, OSR, OSF or CCL, the VTR will accept commands from the personal computer. In the case of EVT, EAT, EIT, SPT, SCS, SCP, OSR, OSF or CCL, the VTR will return a command error. When the "S" indicator is lit, the VTR will go into the VISS mode.	[STX]CRT[ETX]	[STX]CRT[ETX]
CCL	This is the counter calibration command. It resets the counter after the tape has been rewound to the beginning. It can be executed if the VTR is in the STOP, PLAY, REW, FF, PLAY PAUSE, REVERSE PLAY, SLOW or SLOW PAUSE mode. It can be canceled by the OSP or OEJ command. The counter calibration operation will be canceled if the operation mode changes as a result of a key input from the VTR proper or the remote controller. If the VTR receives a command other than the OSP, OEJ, QCD, QOP, QOS, RCK, QRV or QID command while the counter is being calibrated, the VTR will return a command error.	[STX]CCL[ETX]	[STX]CCL[ETX]
RCK	This command checks if communication has been established (if the interface is operating). If the VTR is abnormal, a NACK can be returned; if it is normal, RCK can be returned.	[STX]RCK[ETX]	When normal: [STX]RCK[ETX] When abnormal: [NACK]
QRV	This command is used to refer to the version of the ROM used in the RS-232C in the VTR.	[STX]QRV[ETX]	[STX]VerX.XX 4/1/91[ETX] major version date miner version
QID	This command is used to refer to the type name of the VTR.	[STX]QID[ETX]	[STX]AG5700-E[ETX]

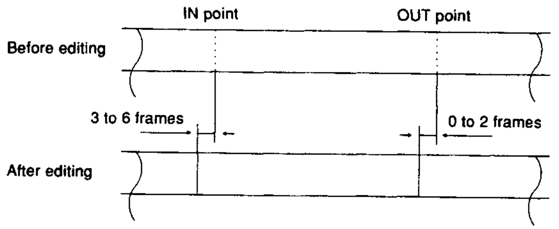
- If a key on the VTR or the remote controller, or the Memory/Search button, is operated while a CCL command is being executed, the operation of the CCL will not take place correctly, and processing will be interrupted. Take steps to ensure that these operations are not performed while a CCL command is being executed.
- If a CRT command is sent when "S" (search) appears on the display of the counter, the VTR will go into the VISS mode, preventing the counter from being reset. Consequently, when resetting the counter, be sure to press the Memory/Search button to cancel the search display in advance.

■ Counter Accuracy and Editing Accuracy

(1) Counter accuracy

Condition	Counter accuracy (TYPICAL)
When search was performed in loading state	±1 frame
When search was performed in FF/REW	FF: ±1 sec. REW: ±2 sec.
When editing was performed	+7 frames

(2) Editing accuracy (TYPICAL)



As shown in the above figure, the IN point is −3 to −6 frames and the OUT point is 0 to −2 frames. (The above figure shows the difference between the edit points.)
The error indicated in the above counter accuracy occurs, hence the IN point on the counter is +4 to +1 frames, and the OUT point on the counter is +7 to +5 frames.

■ **Send command and reply data from the VTR**
When a command is sent correctly, the format data of 1) described in the "(3) Receive format" (page 17) is sent back, however the VTR does not necessarily perform the operation specified by the command, even if it responds to the format of 1). For example, if the playback command "[STX]OPL[ETX]" is sent when the power to the VTR is OFF, [STX]OPL[ETX] will be returned from the VTR, however because the power is OFF, playback will not take place.

In such a case, the state of the VTR can be checked by using the VTR status sense command ([STX]QOP[ETX]).
If one of the following mistakes is made, an error code will be returned, and a certain amount of time will be necessary to search for the cause, so be very careful.

1. Failure to insert a blank

   Example:

   [STX]SCS:1425123[ETX]

   In this example, the operator intended to input a command that would search for 1 hour, 42 minutes, 51 seconds, 23 frames and display a STILL picture. When searching in the positive direction, be sure to insert a space after ":". The correct input is as follows.

   [STX]SCS:_1425123[ETX]
   ↑
   Blank

2. When the data exceeded the allowable range

   Example:

   [STX]SPT:_1107015[ETX]
   ↑

   The data for "second" unit in this example is 70, hence it is incorrect.
   Be sure to input data within the range 0 to 59.

3. When the next command is sent, a limit will be imposed on the commands that can be accepted until the completion of processing. Note that apart from when the special commands shown in the table below (commands that interrupt processing) are being executed, an error code will be returned.

Send command	Special commands that can be accepted during processing		
[STX]EVT:□□□□□□□□[ETX] [STX]EAT:□□□□□□□□[ETX] [STX]EIT :□□□□□□□□[ETX]	[STX]OSP[ETX] [STX]QCD[ETX] [STX]QOP[ETX]	[STX]QOS[ETX] [STX]RCK[ETX] [STX]QRV[ETX]	[STX]QID[ETX]
[STX]SPT:□□□□□□□□[ETX] [STX]SCS:□□□□□□□□[ETX] [STX]SCP:□□□□□□□□[ETX] [STX]OSR:□□□□□□□□[ETX] [STX]OSF:□□□□□□□□[ETX] [STX]CCL[ETX]	[STX]OSP[ETX] [STX]OEJ[ETX] [STX]QCD[ETX] [STX]QOP[ETX] [STX]QOS[ETX]	[STX]RCK[ETX] [STX]QRV[ETX] [STX]QID[ETX]	

■ **Interval between the previous send command and the next send command**
The AG-5700 is a multi-microcomputer VTR. A command that is to be processed in some way by the system control microprocessor in the VTR requires time (approx. 150 msec) to be transmitted between the RS-232C interface microprocessor and the system control microprocessor. The commands indicated below are used to perform processing in the system control microprocessor, so allow an intervals of at least 150 msec when sending a command from the personal computer. When sending the same command such as when sending the ORW command in order to perform a REVIEW operation, send it continuously.

- Commands used to perform some kind of processing on the system control microprocessor.
  OSP
  OEJ
  OPL
  ORW
  OFF
  OPA
  ORC
  OAF
  OAR
  OPR
  OSL
  OSD
  OSU
  CRT
  EIN
  EAD
  POW
  PON
  POF

■ COMMAND table

The following table shows send commands and operations for each mode seen from the personal computer.
[STX] is hexadecimal code 02H.
[ETX] is hexadecimal code 03H.
: is hexadecimal code 3AH.
Discrimination section and data section mean the ASCII code corresponding to that symbol.

• BASIC OPERATION COMMAND

Send command	Receive data from VTR	Description of operation
[STX]OSP[ETX]	Same as at left	STOP
[STX]OEJ[ETX]	Same as at left	EJECT
[STX]OPL[ETX]	Same as at left	PLAY
[STX]ORW[ETX]	Same as at left	REWIND
[STX]OFF[ETX]	Same as at left	FAST FORWARD
[STX]OPA[ETX]	Same as at left	PAUSE/STILL
[STX]ORC[ETX]	Same as at left	RECORD
[STX]OAF[ETX]	Same as at left	ADVANCE/FORWARD
[STX]OAR[ETX]	Same as at left	ADVANCE/REVERSE
[STX]OPR[ETX]	Same as at left	REVERSE PLAY
[STX]OSL[ETX]	Same as at left	SEARCH PAUSE
[STX]OSD[ETX]	Same as at left	SEARCH SPEED DOWN
[STX]OSU[ETX]	Same as at left	SEARCH SPEED UP
[STX]EIN[ETX]	Same as at left	INSERT
[STX]EAD[ETX]	Same as at left	AUDIO DUB
[STX]EIT:□□□□□□□□[ETX]	[STX]EIT[ETX]	INSERT VIDEO TO FRAME Sign; Hours; Minutes; Seconds; Frames
[STX]EAT:□□□□□□□□[ETX]	[STX]EAT[ETX]	INSERT AUDIO TO FRAME Sign; Hours; Minutes; Seconds; Frames
[STX]EVT:□□□□□□□□[ETX]	[STX]EVT[ETX]	INSERT AUDIO&VIDEO TO FRAME Sign; Hours; Minutes; Seconds; Frames
[STX]OSF:□[ETX]	[STX]OSF[ETX]	DIRECT SEARCH (+ direction)
[STX]OSR:□[ETX]	[STX]OSR[ETX]	DIRECT SEARCH (– direction)
[STX]POW[ETX]	Same as at left	POWER ON/OFF
[STX]PON[ETX]	Same as at left	POWER ON
[STX]POF[ETX]	Same as at left	POWER OFF

• SEARCH COMMAND

Send command	Receive data from VTR	Description of operation
[STX]SMC[ETX]	Same as at left	SEARCH MODE COASE
[STX]SMF[ETX]	Same as at left	SEARCH MODE FINE
[STX]SCP:□□□□□□□□[ETX]	[STX]SCP[ETX]	COUNTER SEARCH PLAY Sign; Hours; Minutes; Seconds; Frames
[STX]SCS:□□□□□□□□[ETX]	[STX]SCS[ETX]	COUNTER SEARCH PAUSE Sign; Hours; Minutes; Seconds; Frames
[STX]SPT:□□□□□□□□[ETX]	[STX]SPT[ETX]	PLAY TO FRAME Sign; Hours; Minutes; Seconds; Frames

• MODE AND DATA SENSE COMMAND

Send command	Receive data from VTR	Description of operation
[STX]QOP[ETX]	[STX] □□□[ETX]	STATUS SENSE
[STX]QOS[ETX]	[STX] □□□□□□ □□□□[ETX]	DECK STATUS SENSE
[STX]QCD[ETX]	[STX]CD □□□□□□ □□□□[ETX]	COUNTER SENSE

• OTHER COMMAND

Send command	Receive data from VTR	Description of operation
[STX]CRT[ETX]	Same as at left	COUNTER RESET
[STX]CCL[ETX]	Same as at left	COUNTER CALIBRATE
[STX]RCK[ETX]	Same as at left	ON LINE CHECK
[STX]QRV[ETX]	[STX]Ver.X.XX DATA[ETX]	ROM VERSION SENSE
[STX]QID[ETX]	[STX]AG5700-E[ETX]	DECK ID SENSE

AG-5700 RS-232C mode transition table

Trans. Comm.	VTR mode																									
	P OFF	STOP	EJECT	PLAY	REW	FF	PLAY PAUSE	RV PLAY	SLOW	SLOW PAUSE	REC	REC PAUSE	INSERT	INSERT PAUSE	A DUB	A DUB PAUSE	AV INSERT	AV INSERT PAUSE	EIT ••	EAT ••	EVT ••	SPT. ••	SCS. •• SCP ••	OSR. • OSF. •	CCL	DEW
OSP				○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	ERD
OEJ	○	○		○	○	○	○	○	○	○									ERE	ERE	ERE	○	○	○	○	ERD
OPL		○			○	○		○	○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
ORW		○		•2		○	•2	•2	•2	•2									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OFF		○		•3	○		•3	•3	•3	•3									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OPA				○			○	○	○	○	○	○	○	○	○	○	○	○	ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
ORC		○					○			○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
CRT		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OAF							○			○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OAR							○			○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
POW	○	○	○	○	•1	○	○	○	○	○	○	○	○	○	○	○	○	○	ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
PON	○																		ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
POF		○	○	○	•1	○	○	○	○	○	○	○	○	○	○	○	○	○	ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OPR				○			○		○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OSL		○		○	○	○	○	○	○										ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OSD									○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OSU									○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
EIN							○			○						○			ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
EAD							○			○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
EIT:							○			○				○					ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
EAT							○			○						○			ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
EVT:																○		○	ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
SPT:		○		○	○	○	○	○	○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
SCS:		○		○	○	○	○	○	○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
SCP		○		○	○	○	○	○	○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD
OSR		○		○	○	○	○	○	○	○									ERE	ERE	ERE	ERE	ERE	○	ERE	ERD
OSF:		○		○	○	○	○	○	○	○									ERE	ERE	ERE	ERE	ERE	○	ERE	ERD
CCL		○		○	○	○	○	○	○	○									ERE	ERE	ERE	ERE	ERE	ERE	ERE	ERD

RS-232C Command (Personal computer → VTR)

This table indicates the way in which the VTR operates in response to a command from the personal computer. There are various cases: Even for the same command, the VTR will operate, not operate, return an error, or ignore the command depending on the state of the VTR. For this reason, refer to the section on programming using the personal computer.

How to read the table
The VTR mode is the present VTR state.
The send code is a control code output by the personal computer.

For example

(1) It can be seen that the VTR will stop when the VTR is in the REW state and OSP (STOP command) is sent from the personal computer.
If OPA (pause command) is sent, the column in the table is blank, so it can be seen that nothing will happen (an error will not occur either).

(2) It can be seen that when the VTR is in the EIT mode nothing will happen if OEJ (EJECT command) is sent from the personal computer, but that if OSP (STOP command) is sent the VTR will accept this command and stop.
It can also be seen that an error will occur if the VTR is in the EIT mode and OPL (PLAY command) is sent.

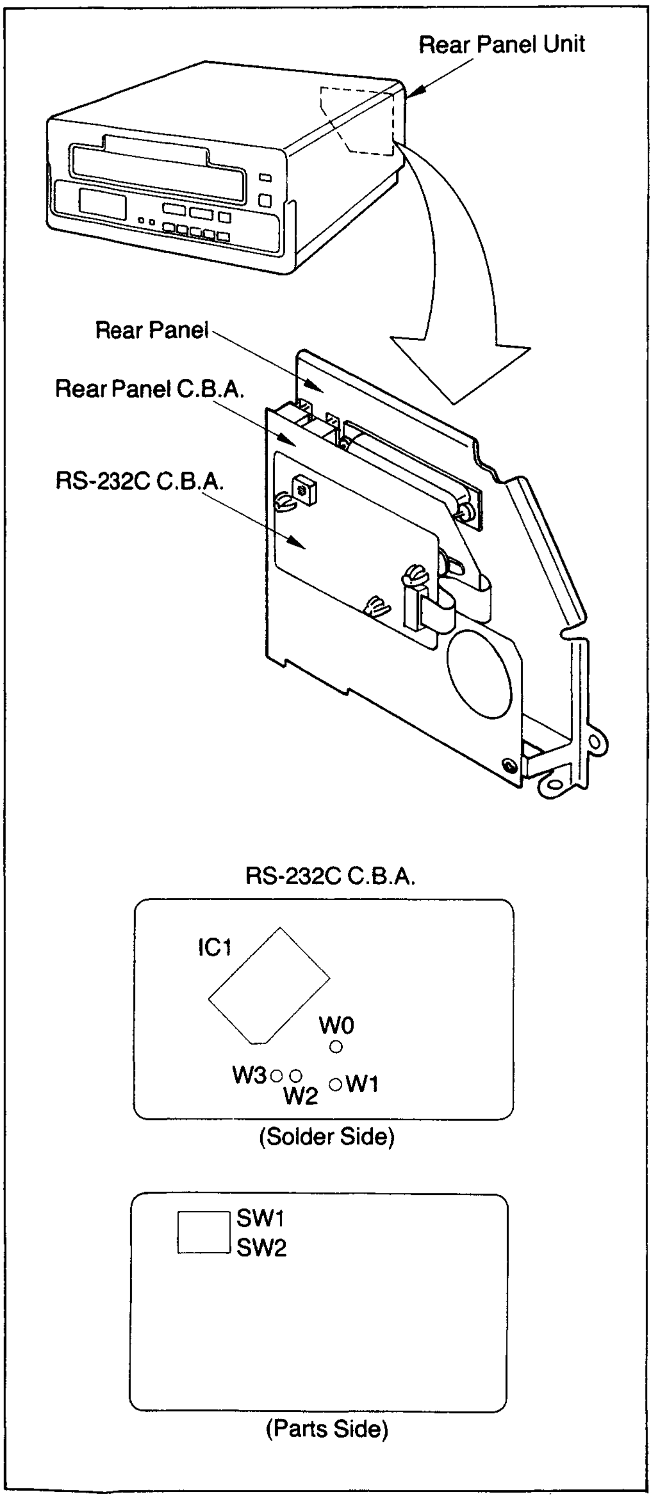
○ ..... Operation can be done
•1 ..... Tape rewound to beginning, then power OFF
•2 ..... Rev operation during continuous output
•3 ..... Cue operation during continuous output
ERE ... The ERE code is returned.
ERD ... The ERD code is returned.

1-7 Service Information

The. AG-5700 can be controlled by a personal computer, via an RS-232C communications interface.

DSW and W0 ~ W4

Used to set the RS-232C communications conditions. Set the DIp switches according to the conditions attendant to the personal computer to be connected to the VTR.


Rear Panel Unit
Rear Panel
Rear Panel C.B.A.
RS-232C C.B.A.
RS-232C C.B.A.
IC1
W0
W3
W2
W1
(Solder Side)
SW1
SW2
(Parts Side)

1. Baud Rate setting (DSW1 - SW1, SW2)

SW 1	SW 2	Baud Rate
OFF	OFF	1200 bps
ON	OFF	2400 bps
OFF	ON	4800 bps
ON	ON	9600 bps

2. Communication data length setting (W0)

W 0	Communication data length
0	7 bit
1	8 bit

3. Stop bit length setting (W1)

W 1	Stop bit length
0	1 bit
1	2 bit

4. Party check setting - 1 (W2)

W 2	Parity check
0	ODD Parity
1	EVEN Parity

5. Parity check setting - 2 (W3)

W 3	Parity check
0	Parity ON
1	Parity OFF

6. NTSC / PAL setting (W4)

W 4	NTSC / PAL
0	PAL
1	NTSC

7. Initial setting

SW1 : ON
SW2 : ON
W 0 : 0
W 1 : 0
W 2 : 0
W 3 : 0
W 4 : 0

Section 2

MAINTENANCE, DISASSEMBLY PROCEDURES
and
MECHANICAL • ELECTRICAL ADJUSTMENT

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1 MAINTENANCE PROCEDURES

1-1 PARTS LOCATION

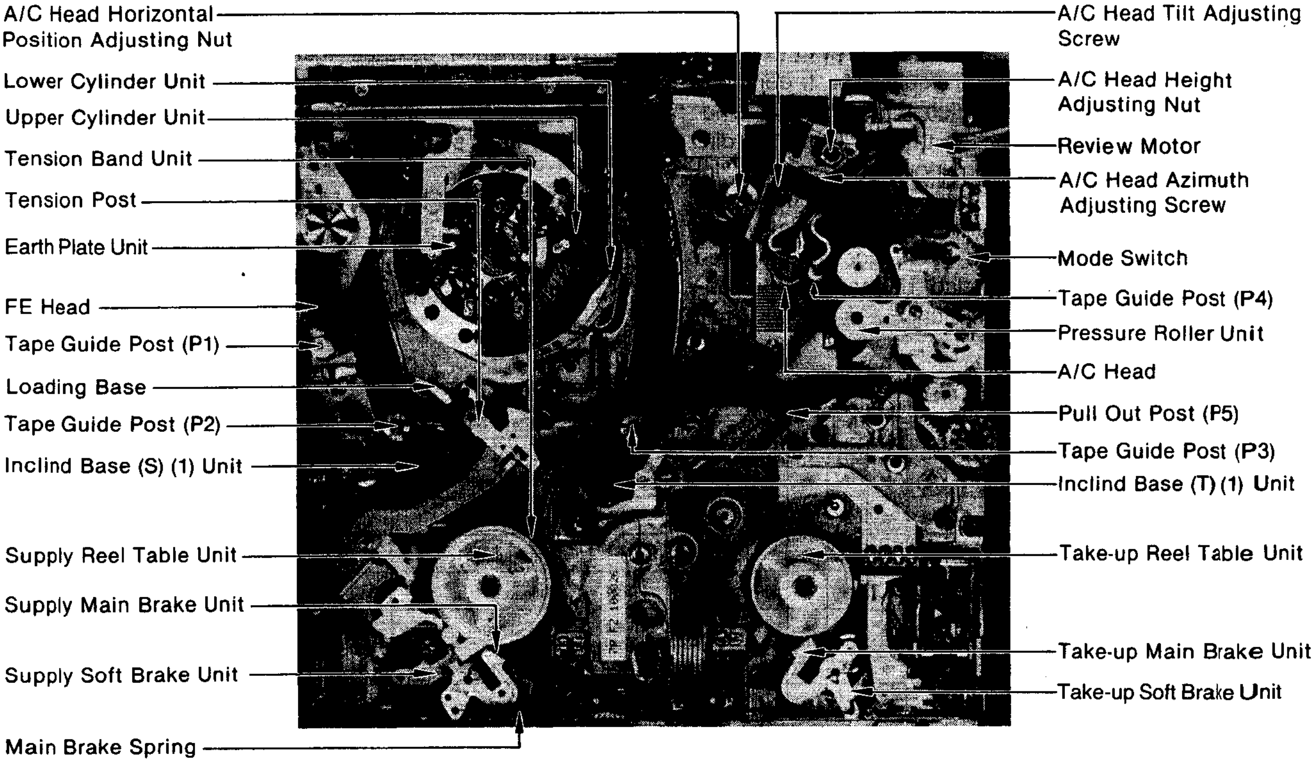

A/C Head Horizontal Position Adjusting Nut
Lower Cylinder Unit
Upper Cylinder Unit
Tension Band Unit
Tension Post
Earth Plate Unit
FE Head
Tape Guide Post (P1)
Loading Base
Tape Guide Post (P2)
Inclind Base (S) (1) Unit
Supply Reel Table Unit
Supply Main Brake Unit
Supply Soft Brake Unit
Main Brake Spring
A/C Head Tilt Adjusting Screw
A/C Head Height Adjusting Nut
Review Motor
A/C Head Azimuth Adjusting Screw
Mode Switch
Tape Guide Post (P4)
Pressure Roller Unit
A/C Head
Pull Out Post (P5)
Tape Guide Post (P3)
Inclind Base (T) (1) Unit
Take-up Reel Table Unit
Take-up Main Brake Unit
Take-up Soft Brake Unit

Figure 1 Top View

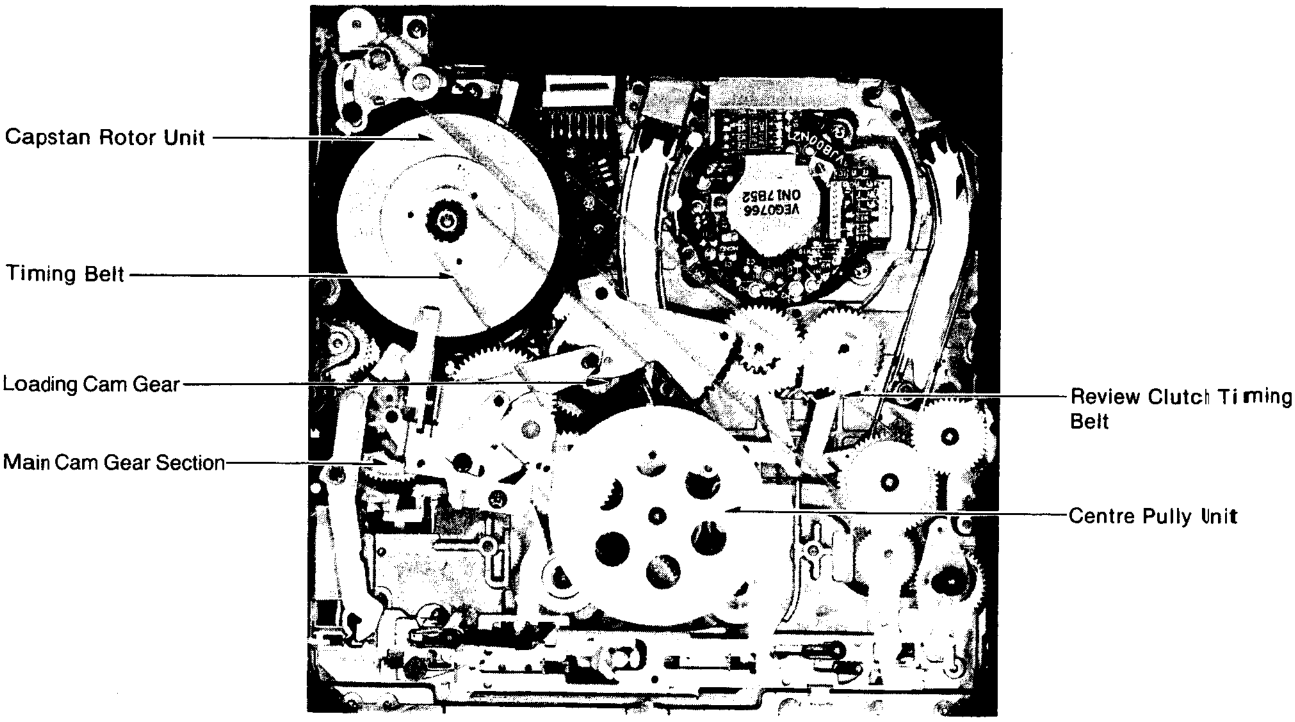

Capstan Rotor Unit
Timing Belt
Loading Cam Gear
Main Cam Gear Section
Review Clutch Timing Belt
Centre Pully Unit

Figure 2 Bottom View

1-2 REGULAR MAINTENANCE

The purpose of periodic maintenance is to preserve the functioning of this machine throughout its useful life. The user or service dealer should perform these maintenance regularly to ensure that maximum utility is obtained from the machine.

The VCR is a complicated piece of equipment. It contains many belts, rollers, heads etc., which become worn, and deteriorate as time goes by, causing trouble. Dust and dirt will also impede the proper functioning of the machine. In light of this, it is very important that overall maintenance be done according to the maintenance chart to maintain the functions of the VCR, and to avoid accidental problems. This maintenance should also be performed after any repairs are done on the equipment.

The VCR used for business applications requires particular attention for several reasons. The installation conditions and applications are not always the best. Long use times, or poor environmental conditions may adversely affect the lifespan and performance of the machine. Regular maintenance assures that the purchaser obtains the maximum value for his expenditure. Accordingly, the necessity of regular maintenance should be fully explained at the time of sale, as well as during after-sale repairs.

MAINTENANCE CHART

The following periodic maintenance is required to prolong the life of the machine.

Ref. No. IN P/L	Parts Name	Hour										Ref. No. IN P/L	Parts Name	Hour									
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000			500	1000	1500	2000	2500	3000	3500	4000	4500	5000
—	Tape Transporter	●	●	●	●	●	●	●	●	●	●	1–36	Tension Band U				◎				◎		
1–10	A/C Head	●	●	●	●	●	●	●	◎	●	●	2–7	Timing Belt				◎				◎		
1–38	Upper Cylinder	●	◎	●	◎	●	◎	●	◎	●	◎	1–27	Earth Plate U				◎				◎		
1–37	Cylinder U	●	●	●	●	●	●	●	◎	●	●	1–54	FE Head	●	●	●	●	●	●	●	◎	●	●
1–48	Supply Reel Table U	●	●	●	●△	●	●	●	●△	●	●	1–64	Mode Switch								◎		
1–55	Takeup Reel Table U	●	●	●	●△	●	●	●	●△	●	●	2–32	Loading Cam Gear		▲		▲		▲		▲		▲
2–6	Capstan Rotor U	●	●△	●	●△	●	●△	●	◎△	●	●△	2–18	Main Cam Gear		×		×		×		×		×
—	Capstan Housing U								◎			1–42	Inclined (S) U		▲		▲		▲		▲		◎
1–19	Pressure Roller U				◎				◎			1–45	Inclined (T) U		▲		▲		▲		▲		◎
1–59	Main Brake (S) U				◎				◎			1–8	Rev Motor U								◎		
1–62	Main Brake (T) U				◎				◎			2–50	Rev Timing Belt				◎				◎		
1–60	Soft Brake (T) U				◎				◎			1-32	P5 Arm U								▲		

∗NOTE:

Symbol	Maintenance	Requirement	Remark
●	Cleaning	Freon TF, Ethyl-alcohol or Cleaning Liquid (Purchase locally)	Wipe dirt from the parts using soft cloth impregnated with Freon TF or Ethyl-Alcohol. Note: When cleaning rubber parts, avoid using excessive alcohol since it may accelerate deterioration of these parts. After cleaning with alcohol, wipe the alcohol quickly and thoroughly.
◎	Replacement	———	———
△	Lubrication	High Quality Spindle Oil (Purchase locally)	Supply one or two drops of oil.
▲	Greasing	Molytone Grease (MOR265)	Wipe the old grease and apply new grease.
×	Greasing	S.C.R. Grease (VFK0680)	Wipe the old grease and apply new grease.

2 DISASSEMBLY PROCEDURES

2-1 DISASSEMBLY FLOW CHART

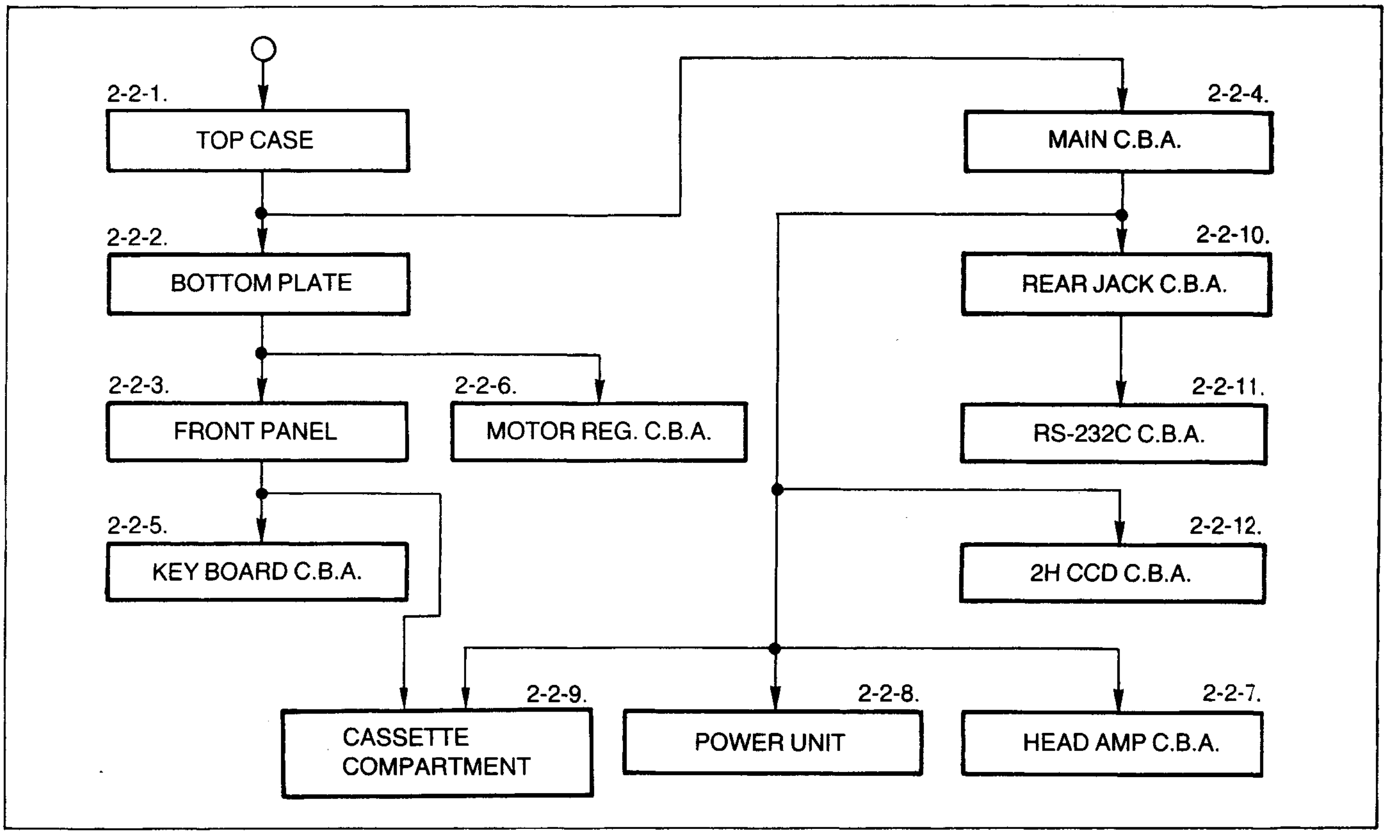

2-2-1.
TOP CASE
2-2-2.
BOTTOM PLATE
2-2-3.
FRONT PANEL
2-2-6.
MOTOR REG. C.B.A.
2-2-5.
KEY BOARD C.B.A.
2-2-4.
MAIN C.B.A.
2-2-10.
REAR JACK C.B.A.
2-2-11.
RS-232C C.B.A.
2-2-12.
2H CCD C.B.A.
2-2-9.
CASSETTE COMPARTMENT
2-2-8.
POWER UNIT
2-2-7.
HEAD AMP C.B.A.

Figure D1

The above flowchart describes the order of steps for removing the cabinet parts and certain printed circuit boards in order to gain access to the unit, follow the steps in the reverse order.

2-2 DETAILED DISASSEMBLY METHOD

2–2–1. Removal of the Top Case

1. Unscrew 2 screws (A) on the Top Case.
2. Carefully lift the rear of the Top Case and slide it off the back of the deck (Figure D2).

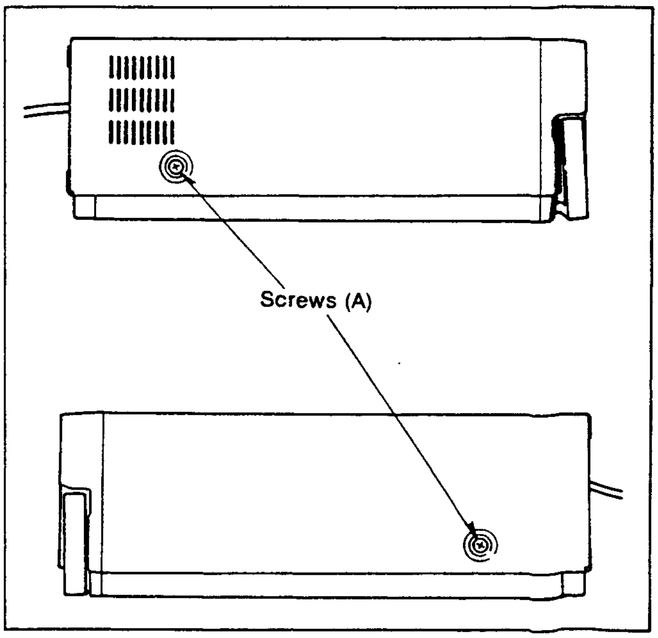


Figure D2

2-2-2. Removal of the Bottom Plate

1. Unscrew 4 screws (B) and unscrew 1 screw (C) on the Bottom Plate.
2. Lift off the Bottom Plate (Figure D3).

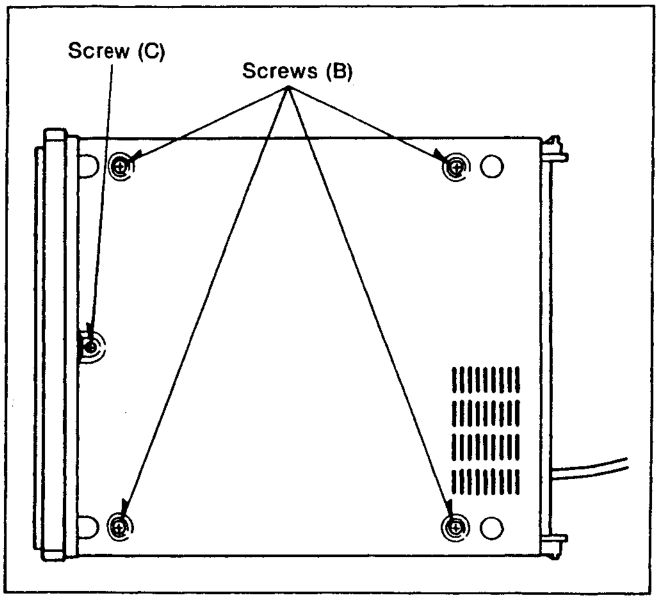

Screw (C)
Screws (B)

Figure D3

2-2-3. Removal of the Front Panel.

1. Unscrew 2 screws (D) and unscrew 2 screws (E) as shown in Figure D4 and Figure D5.

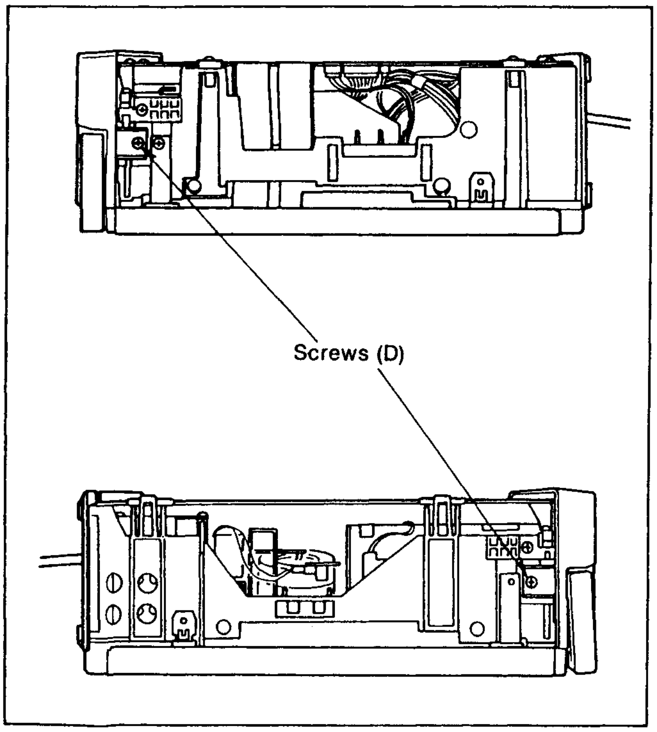


Figure D4

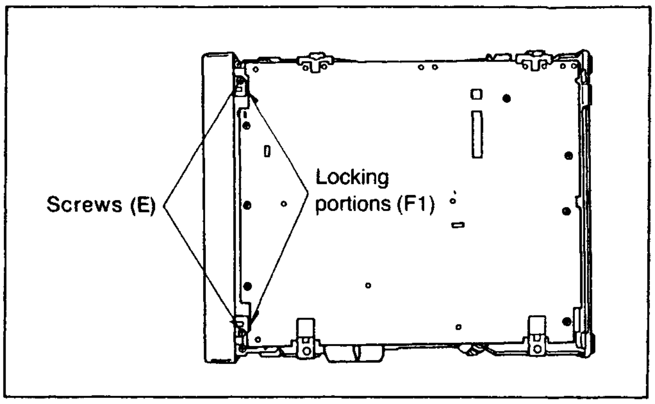

Screws (E)
Locking portions (F1)

Figure D5

2. Unlock 4 locking portions (F1) and (F2), and carefully pull out the Front Panel from the deck (Figure D5 and D6).

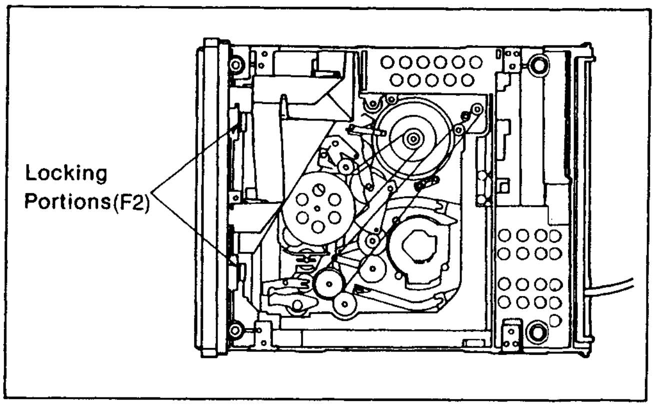

Locking Portions(F2)

Figure D6

2-2-4. Opening of the Main C.B.A.

1. Unscrew 3 screws (G) on the Main C.B.A. (Figure D7).

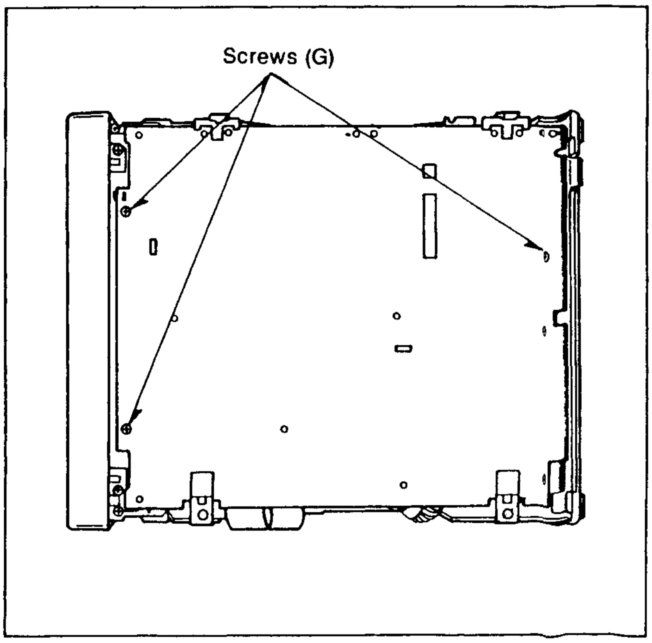


Figure D7

2. Unscrew 2 screws (I) on the Rear Panel (Figure D8).

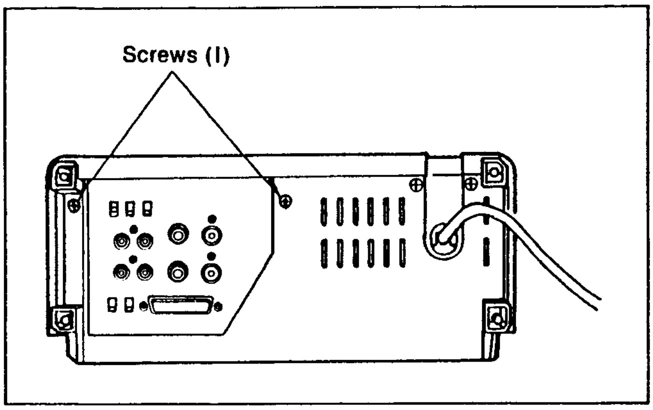


Figure D8

3. Unlock 2 locking portions (J) and carefully open the Main C.B.A. as show in the Figure D9.

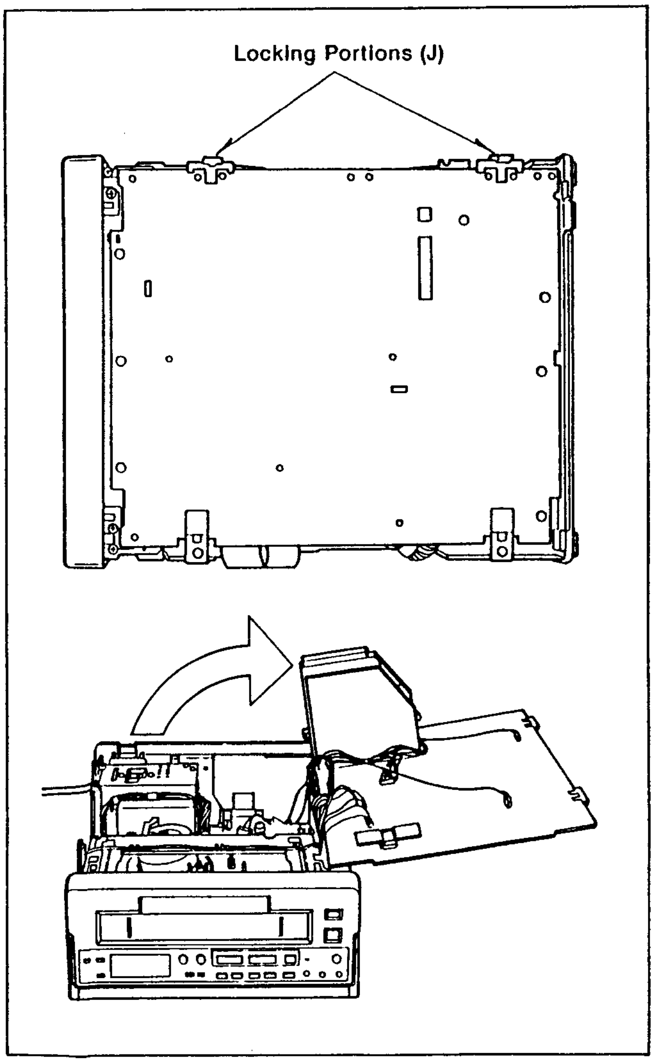

Locking Portions (J)

Figure D9

2-2-5. Removal of the Key Board C.B.A.

1. Disconnect the 2 Flexible Wires from the connector P6501 and P6502 on the Key Board C.B.A.
2. Unscrew 3 screws (K) on the Key Board C.B.A. and unlock 4 locking portions (L).
3. Carefully remove the Key Board C.B.A. (Figure D10).

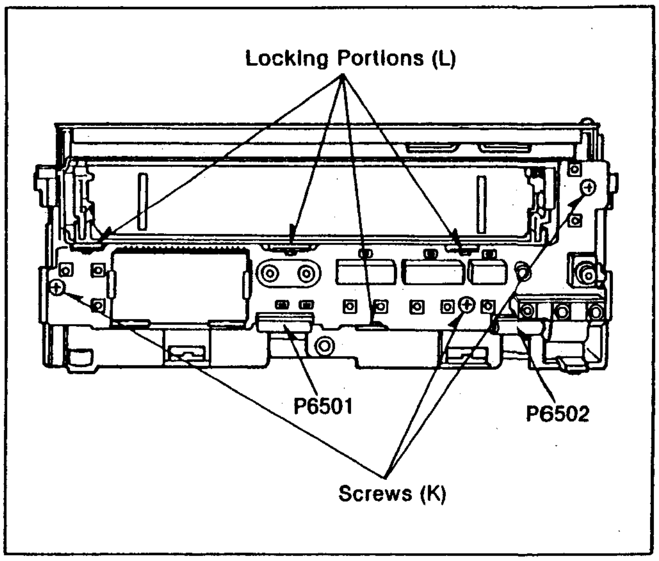

Locking Portions (L)
P6501
P6502
Screws (K)

Figure D10

2-2-6. Removal of the MOTOR REG. C.B.A.

1. Unscrew 2 screws (M) on the right side of the deck.
2. Remove the MOTOR REG. C.B.A. and disconnect a connector P6101 (Figure D11).

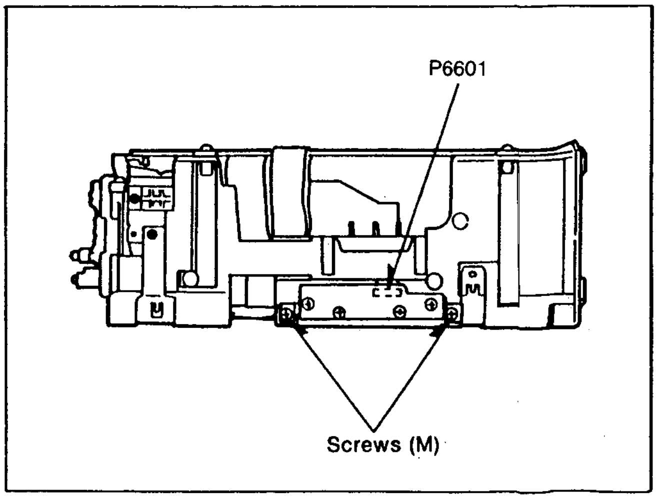

P6601
Screws (M)

Figure D11

2-2-7. Removal of the Head Amp C.B.A.

1. Unscrew 2 screws (H) and remove the AC head shield sheet.
2. Disconnect the connectors P501 and P551 on the Head Amp C.B.A.
3. Unscrew 2 screws (N) on the Head Amp Shield Case.
4. Pull up the Head Amp C.B.A. to top side as shown in Figure D12.

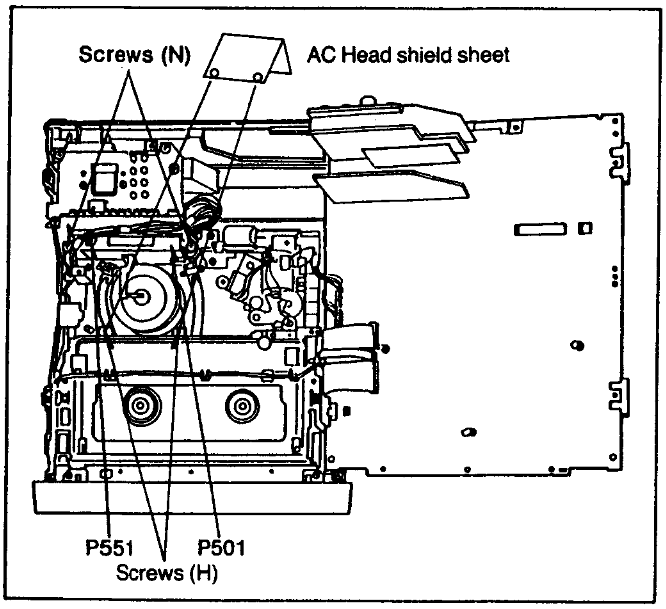

Screws (N)
AC Head shield sheet
P551
P501
Screws (H)

Figure D12

2-2-8. Removal of the Power Unit

1. Disconnect a connector P1001 on the Power Supply C.B.A.
2. Unscrew 2 screw (O) on the Power Unit Shield Case (Figure D13).

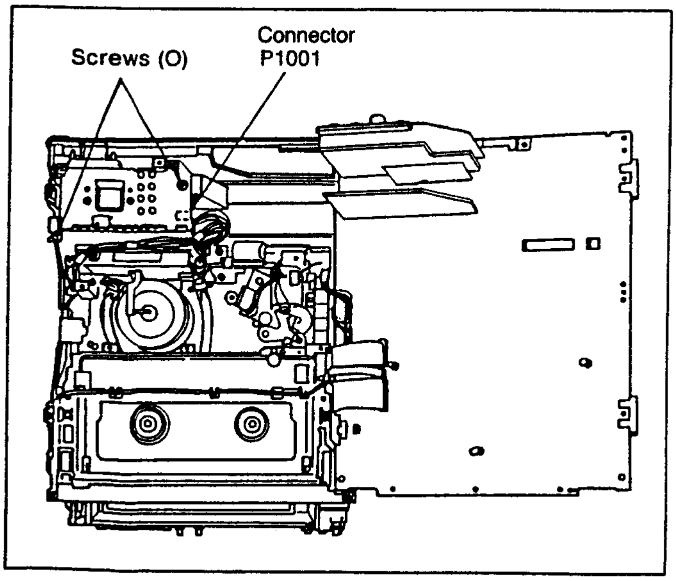

Connector
P1001
Screws (O)

Figure D13

3. Unscrew 2 screws (P) on the rear panel (Figure D14).
4. Carefully remove the Power Unit.

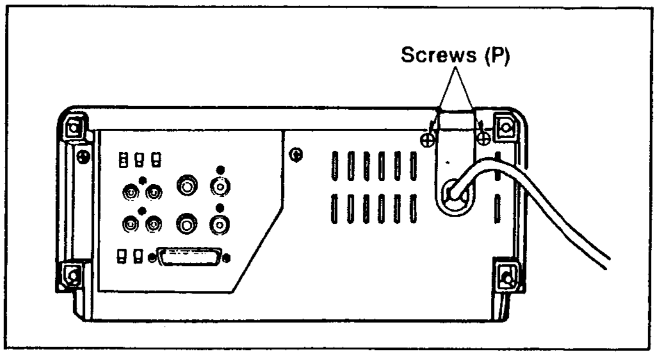


Figure E14

2-2-9. Removal of Cassette Compartment Unit

1. Unscrew 2 screws (Q) on the Front Angle and remove the Front Angle (Figure D15).

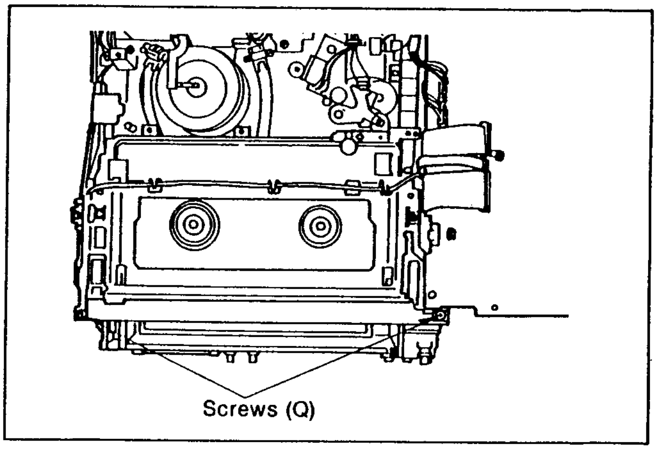


Figure D15

2. Unscrew 2 screws (R-1) and slide the cassette holder until appearing 2 screws (R-2) by turning (clockwise) the capstan rotor unit (located in the bottom side) and then remove 2 screws (R-2) (Figure D16 and Figure D17).
3. Disconnect the flexible wire from connector P1508 mounted on Take-up Photo TR C.B.A., then carefully pull out the cassette compartment.

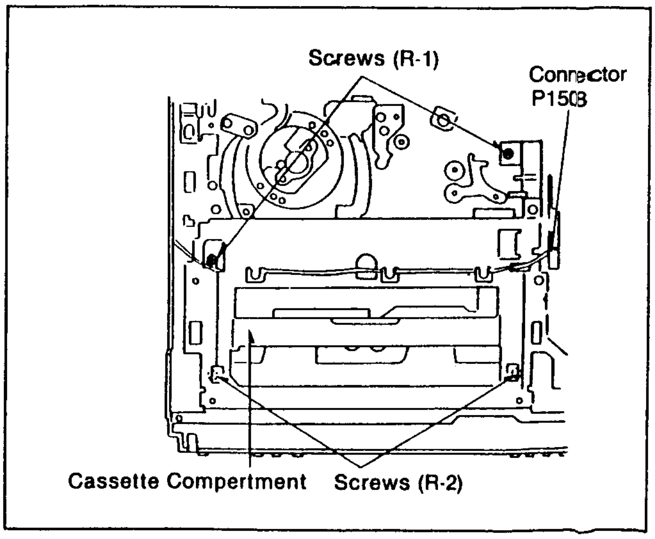

Screws (R-1)
Connector
P1508
Cassette Compertment
Screws (R-2)

Figure D16

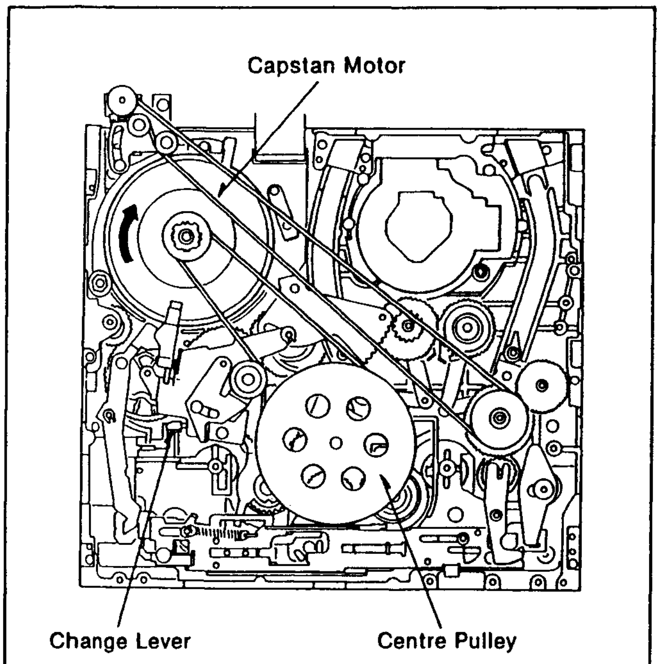

Capstan Motor
Change Lever
Centre Pulley

Figure D17

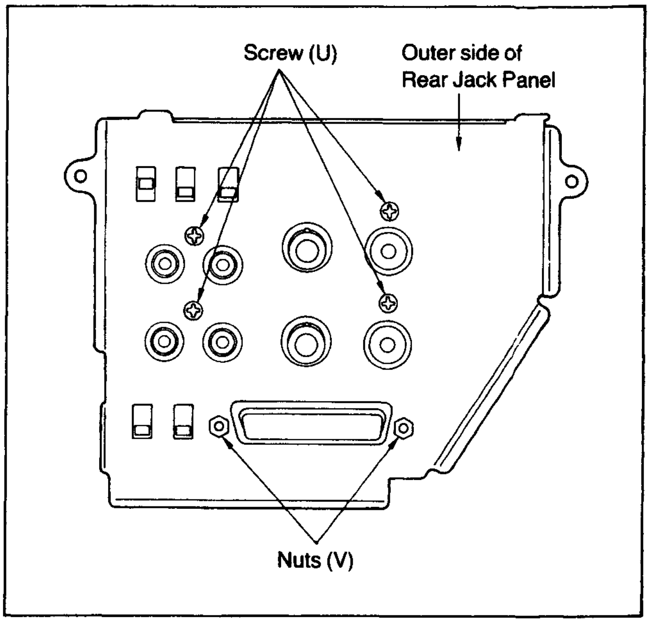

Screw (U)
Outer side of Rear Jack Panel
Nuts (V)

Figure D19

2–2–10. Removal of the Rear Jack C.B.A.

1. Unscrew the 2 Screws (T) on the solder side of the main C.B.A.
2. Pull out Rear Jack C.B.A. with Rear Panel so that the Rear Jack C.B.A. unit can be removed. (Figure D18)

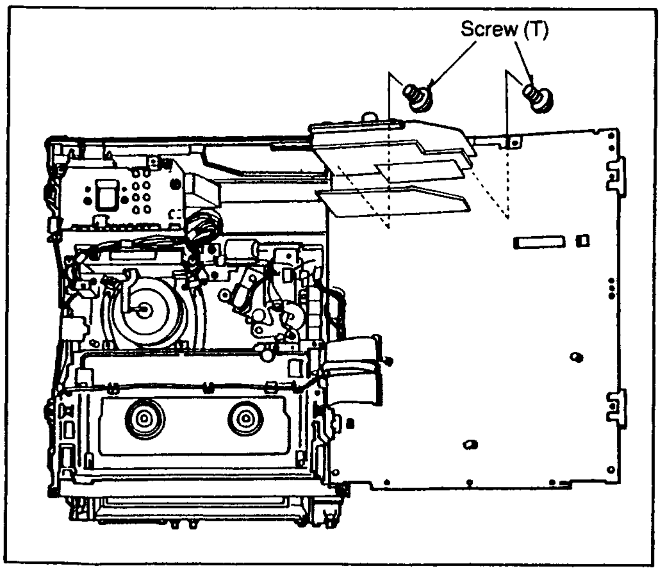


Figure D18

3. Unscrew the 4 screws (U).
4. Remove the 2 nuts (V) on the 25pin D–sub Connector. (Figure D19)
5. Unscrew thte 2 screws (W).
6. Unsolder the 4 soldered portions for the BCN Connectors. (Figure D20)
7. Pull out the Rear Jack C.B.A.

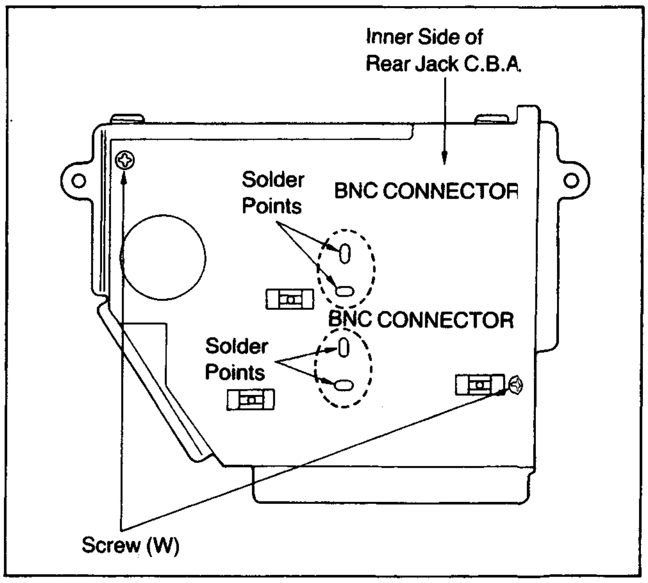

Inner Side of Rear Jack C.B.A.
Solder Points
BNC CONNECTOR
BNC CONNECTOR
Solder Points
Screw (W)

Figure D20

2-2-11. Removal of the RS-232C C.B.A.

1. Unlock the 3 locking portions (S).
2. Pull out the RS-232C C.B.A. (Figure D21)
3. Disconnect the flat Cable from the RS232C C.B.A.

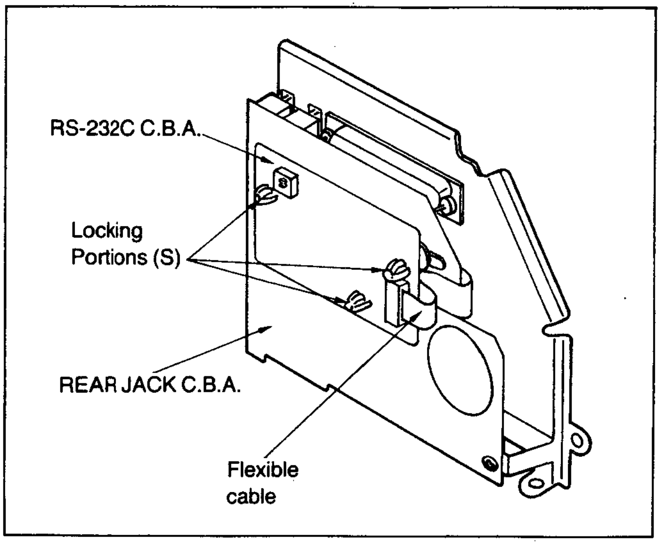

RS-232C C.B.A.
Locking Portions (S)
REAR JACK C.B.A.
Flexible cable

Figure D21

2-2-12. Removal of the CCD C.B.A.

1. Pull out the CCD C.B.A. carefully. (Figure D22)

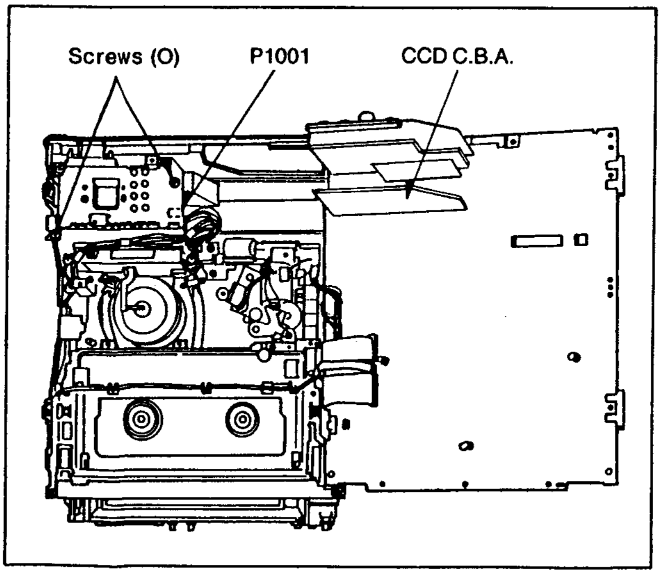
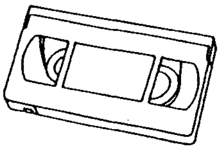
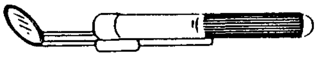
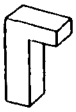
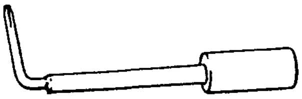
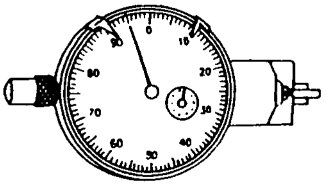
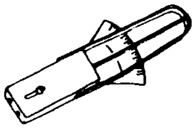
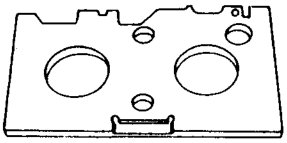
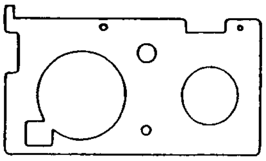
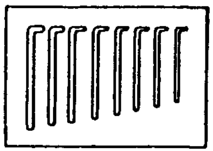
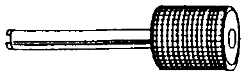
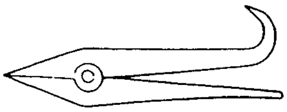
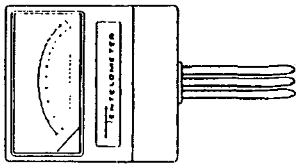
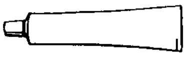
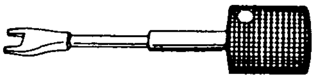
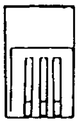
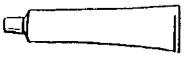

Screws (O)
P1001
CCD C.B.A.

Figure D22

3 MECHANICAL ADJUSTMENT PROCEDURES

The regular maintenance is important to maintain the initial specification of the deck and to prevent tape damage.
The specified servicing fixture must be used to conduct adjustment.
The following fixtures, tools and measuring equipments are required to conduct complete Mechanical Adjustment.

3-1 SERVICING FIXTURES & TOOLS

VFM8180HADH VHS Alignment Tape 	VFK0343 Check Light 	VFK0344 Post Height Adjustment Fixture (P1) 
VFK0269 L Type Screwdriver 	VFK0190 Reel Table Height Gauge  	VFK66 Fan Type Tension Gauge 
VFK0191 Post Adjustment Plate 	VFK0387 Tension Post Adj. Fixture 	VFK0326 Hex. Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 
VFK0329 Post Adj. Screwdriver 	VFK0335 Retaining Ring Remover (3mm/4mm) 	VFK0132 Back Tension Meter (Tentelometer, Made in U.S.A.) 
MOR265 Morlytone Grease (Cam Gear, Slide Section, Hyper Pressure Sections etc.) 	VFK0328 H-Position Adj. Screwdriver 	VFK27 Head Cleaning Stick 
VFK0680; S.C.R. Grease (White) (for plastic part) 	High Quality Machine Oil <Purchase Locally> (Reel Shaft, Capstan Shaft etc.)	Cleaning Liquid (Alcohol) <Purchase Locally> (Tape Transport Rubber Parts etc.)

3-2. SERVICE INFORMATION

1. HOW TO EJECT MANUALLY

If the electoral circuit is defective and the action of unloading and front unloading don't work prorerly, it is possible to eject manually as follows.

1. Take out the Main AC.
2. Release the Change Lever direction as shown in Figure M1.
3. Turn the capstan motor to counter-clockwise slowly until the Clutch Disk is locked. (Clutch Disk is locked once in one rotation)
4. Release the Change Lever again when the Clutch Disk is locked.
5. Repeat the step 2 and 3 until cassette is ejected.

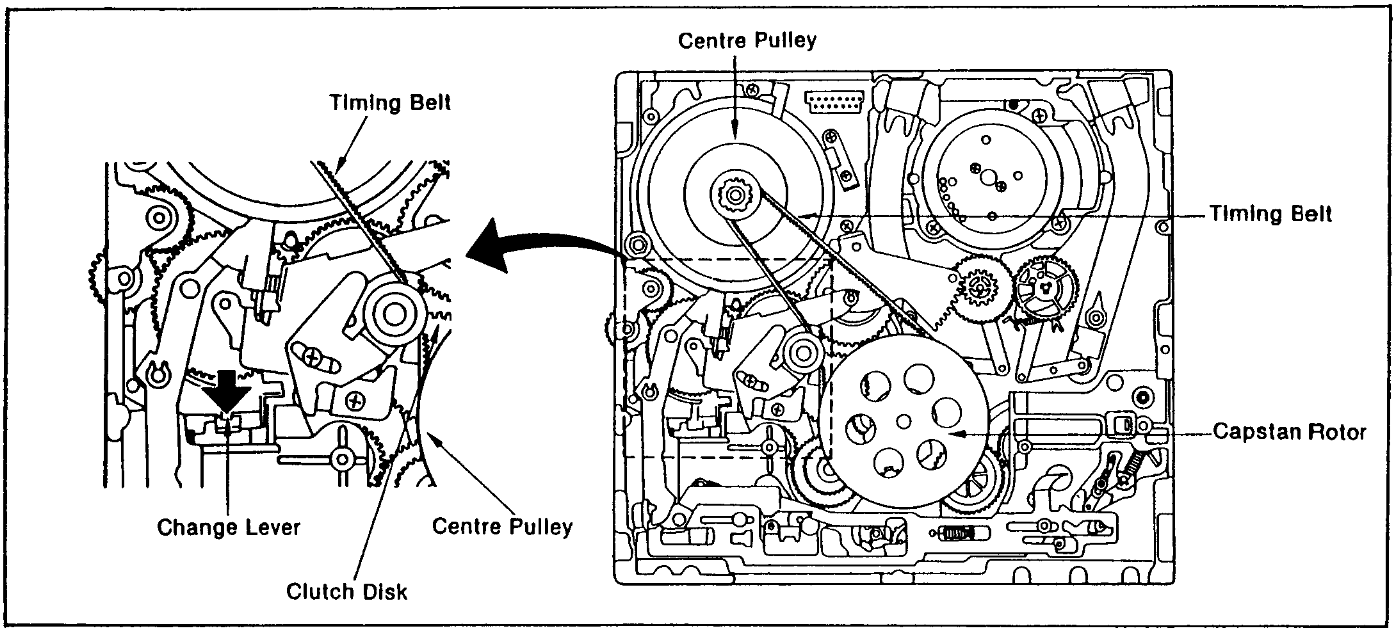


Figure M1

2. HOW TO SEE THE MOVEMENT OF MECHANISM WITHOUT CASSETTE COMPARTMENT

Since capstan motor works as loading motor and front loading motor, phase relationship between cassette compartment and mechanism is important, so Playback and FF/REW can not be performed even just only taking out the cassette compartment, however, if you want to see the mechanical movement without cassette compartment, it is possible as follows.

1. Take out the Main AC.
2. Take out the 5 pins flexible cable from connector on the cassette compartment and remove the cassette compartment from chassis. Set the Mechanism to stop (FF/REW) mode as following items 3.,4.,5.,6.
3. Release the change lever by pushing it to arrow mark direction as shown in Figure M1.
4. Turn the capstan motor clockwise untill the Clutch Disk is locked. (Clutch Disk is locked once in one rotation)
5. Release the change lever again when Clutch Disk is locked.
6. Repeat item 4 and 5 until mechanism come to stop (sub loading) position as shown in Figure M2. (STOP position is same as FF/REW position, therefore, when you rotate the capstan motor in STOP position, supply or Take up reel table is rotated corresponding with direction of rotation)
7. Turn the power on.
8. Now, any operation can be performed without cassette compartment.

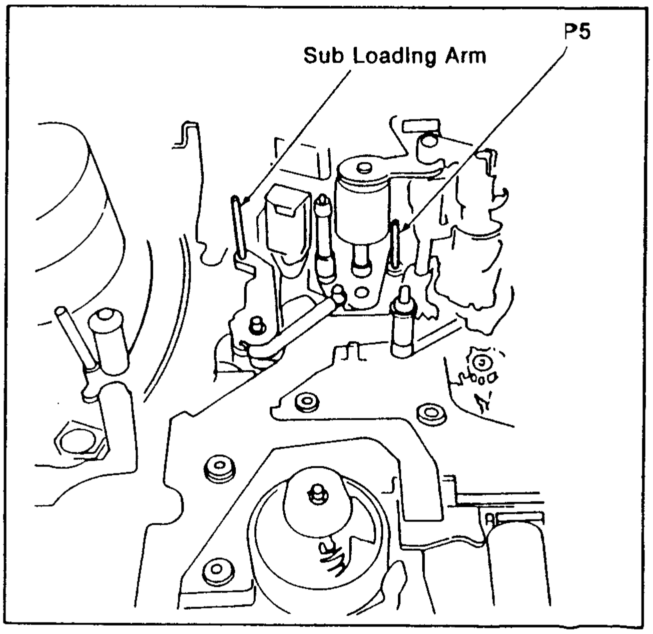


Figure M2

*Notes:
1. Don't add the large torque to any gears not to break it.
2. When reinstalling the cassette compartment, refer to Reinstallation of Cassette Compartment procedures.
3. It is not possible to operate the mechanism from Eject position.

3-3. CYLINDER MAINTENANCE PROCEDURES

1. REPLACEMENT OF THE DD CYLINDER UNIT

Work with extreme care when removing or replacing the D.D. cylinder unit.
Do not touch the video head during servicing.

1. Remove the 2 screws (R) to take the Head Amp Pack Out.
2. Remove the 1 screw (S) to take the Earth Holder Unit Out.
3. Disconnect the 5P connector on the cylinder drive C.B.A.

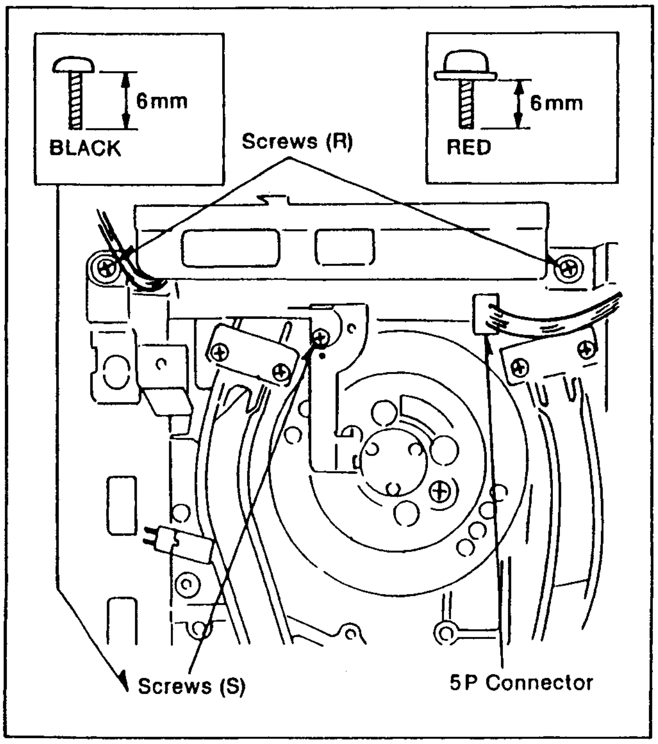


Figure M3

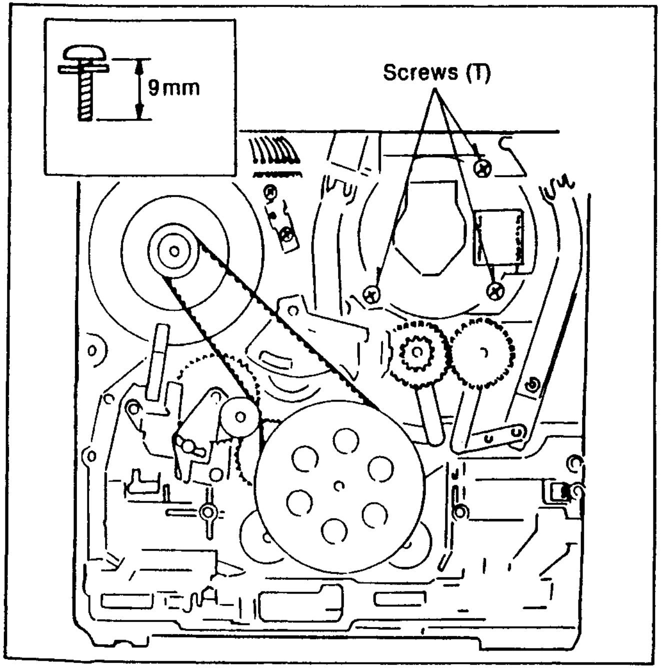


Figure M4

4. Remove the 3 screws (T) to take the D.D. cylinder unit (with the cylinder drive C.B.A.) out.

*Note: Since there is very little clearance between the D.D. cylinder unit and the chassis, remove the D.D. cylinder unit gently and carefully.

5. Reinstall the new D.D. Cylinder Unit, tighten the 3 screws (T) and reinstall the Earth Holder Unit, tighten the 1 screw (S).
   Then re-connect the Head Amp pack and 5P connector and tighten 2 screws (R).

*Notes:
1. Gently rub the video head in direction of tape travel with Head cleaning stick.
2. After replacement, maintenance is required, perform "TAPE INTER-CHANGEABILITY ADJUSTMENT".

2. REPLACEMENT OF THE UPPER CYLINDER UNIT

1. Remove two screws as shown below.
2. Unsolder 16 soldered portions indicated by arrows on the C.Board.
3. Remove the Upper Cylinder Unit by lifting it upward.

*Note: Soldered portion can be easily removed by using de-soldering wire, etc.

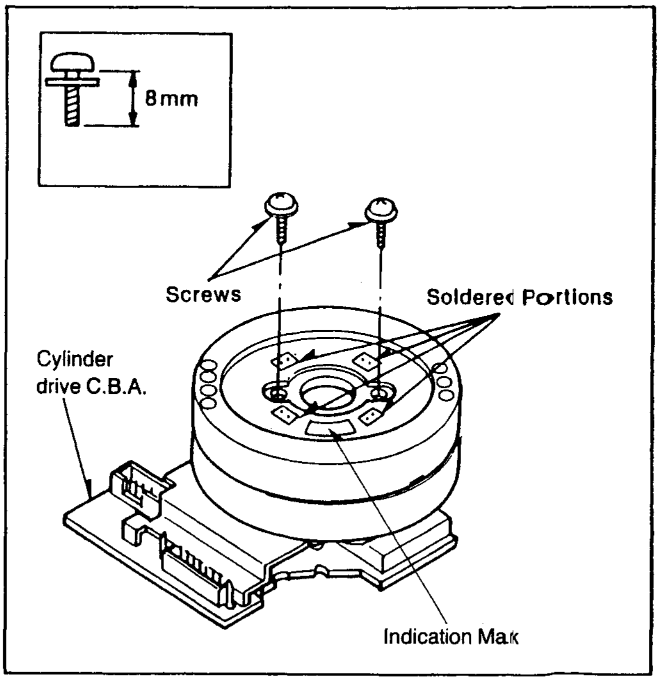


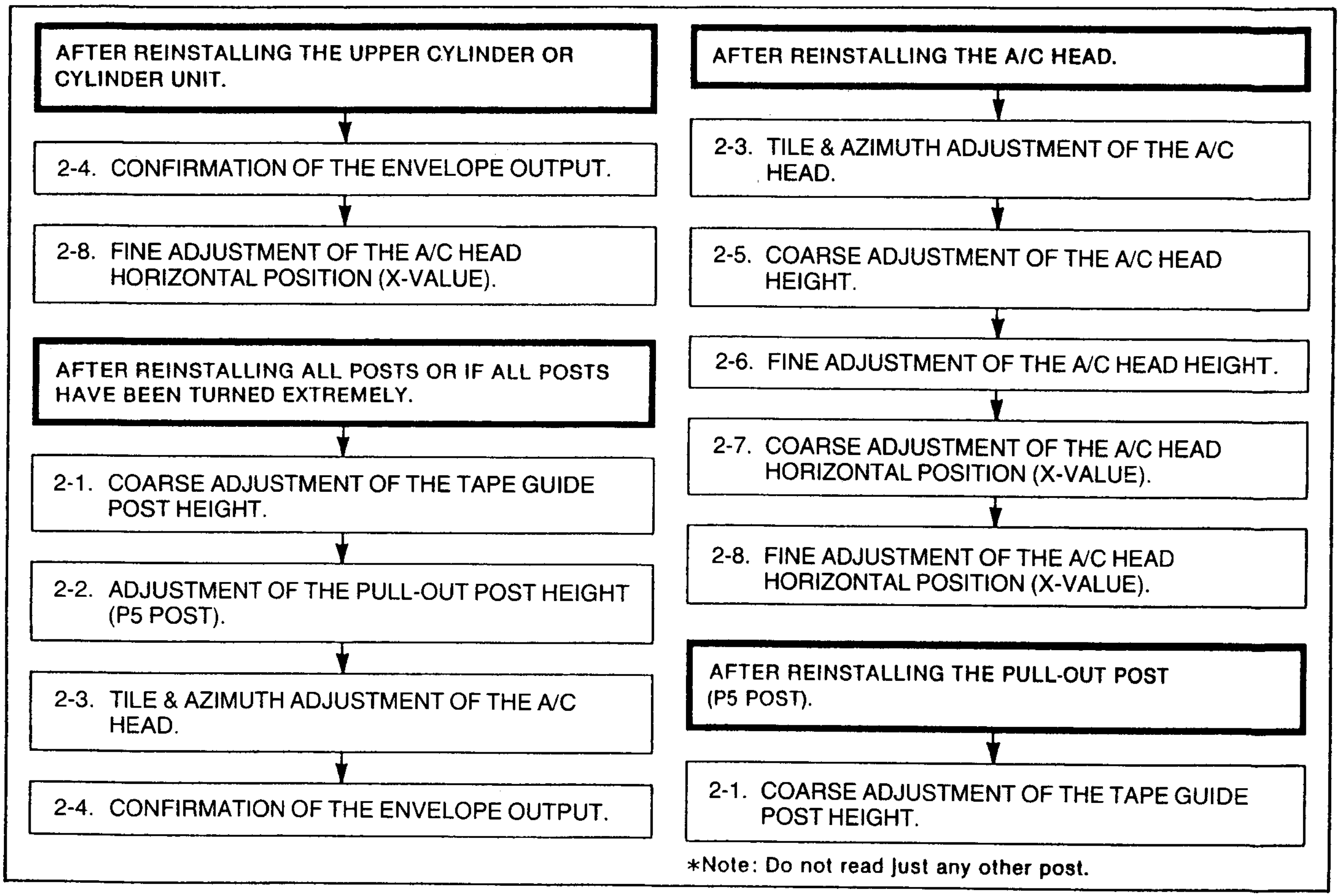
Figure M5

4. The upper cylinder unit can be reinstalled by reversing the removal procedure, however, when the upper cylinder is reinstalling, be extremely carefull s that indication mark of C. Board of the upper cylinder correctly matches the indication mark of the bottom cylinder.

3-4. TAPE INTERCHANGEABILITY ADJUSTMENT PROCEDURES

1. ADJUSTMENT FLOW CHART

This flow chart describes the order of steps for adjusting the tape guide posts and A/C head in order to gain access to the items needing servicing. (Figure M6-1)



AFTER REINSTALLING THE UPPER CYLINDER OR CYLINDER UNIT.

2-4. CONFIRMATION OF THE ENVELOPE OUTPUT.

2-8. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

AFTER REINSTALLING ALL POSTS OR IF ALL POSTS HAVE BEEN TURNED EXTREMELY.

2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHT.

2-2. ADJUSTMENT OF THE PULL-OUT POST HEIGHT (P5 POST).

2-3. TILE & AZIMUTH ADJUSTMENT OF THE A/C HEAD.

2-4. CONFIRMATION OF THE ENVELOPE OUTPUT.

AFTER REINSTALLING THE A/C HEAD.

2-3. TILE & AZIMUTH ADJUSTMENT OF THE A/C HEAD.

2-5. COARSE ADJUSTMENT OF THE A/C HEAD HEIGHT.

2-6. FINE ADJUSTMENT OF THE A/C HEAD HEIGHT.

2-7. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

2-8. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

AFTER REINSTALLING THE PULL-OUT POST (P5 POST).

2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHT.

*Note: Do not read just any other post.

Figure M6-1

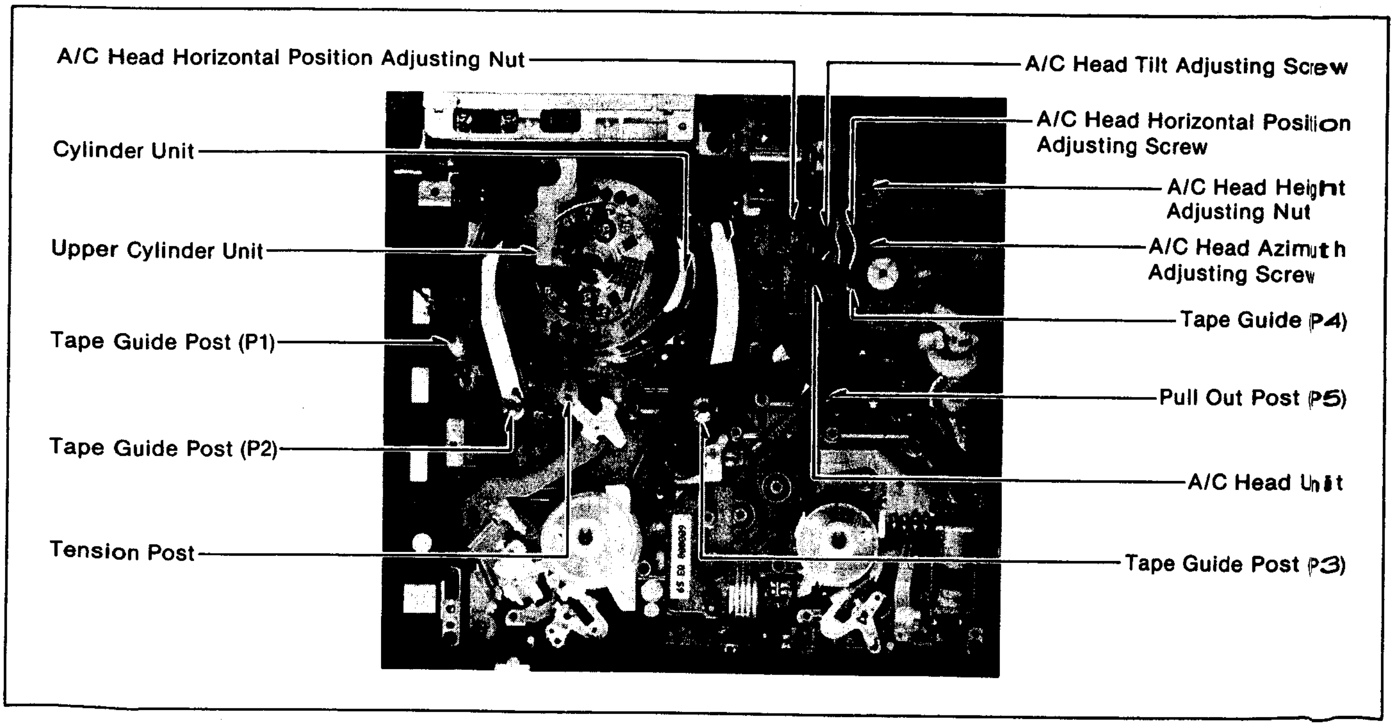

A/C Head Horizontal Position Adjusting Nut
Cylinder Unit
Upper Cylinder Unit
Tape Guide Post (P1)
Tape Guide Post (P2)
Tension Post
A/C Head Tilt Adjusting Screw
A/C Head Horizontal Position Adjusting Screw
A/C Head Height Adjusting Nut
A/C Head Azimuth Adjusting Screw
Tape Guide (P4)
Pull Out Post (P5)
A/C Head Unit
Tape Guide Post (P3)

Figure M6-2 **Parts Location**

2. ADJUSTMENT PROCEDURES

2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS (P2 and P3)

*Notes:

1. The Tape Guide Posts have been precisely adjusted at the factory.
   Therefore, normally do not change the height of the P2 and P3 Posts.
   The following adjustment is required only when replacing the posts.
2. To prevent the alignment tape from being damaged, use a normal cassette tape for this procedure.

*Tools and Equipment Required:

Post Adjustment Plate	VFK0191
Reel Table Height Gauge	VFK0190
Post Adjustment Screwdriver	VFK0329
L Type Adjustment Screwdriver	VFK0269

1. Remove the cassette compartment.
2. Place the Post Adjustment Plate over the reel tables. Confirm that the Post Adjustment Plate is firmly seated as shown in Figure M7.

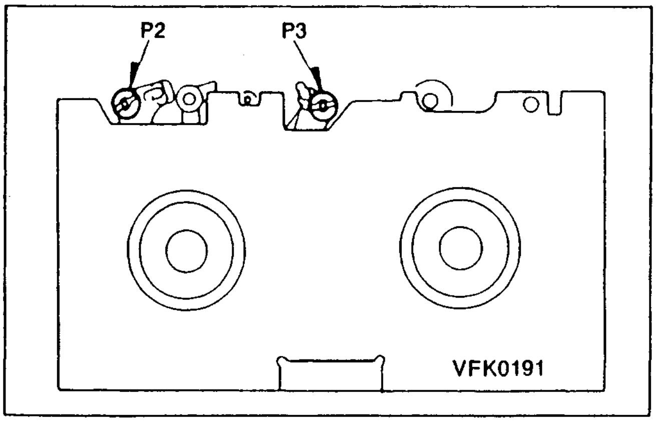


Figure M7

3. Lower 2 tape guide posts (P2 and P3) by turning the Post Adjustment screwdriver so that the condition of height becomes as shown in Figure M8. That is, the lower edge of Tape guide should be lower than surface of Adjustment Plate.

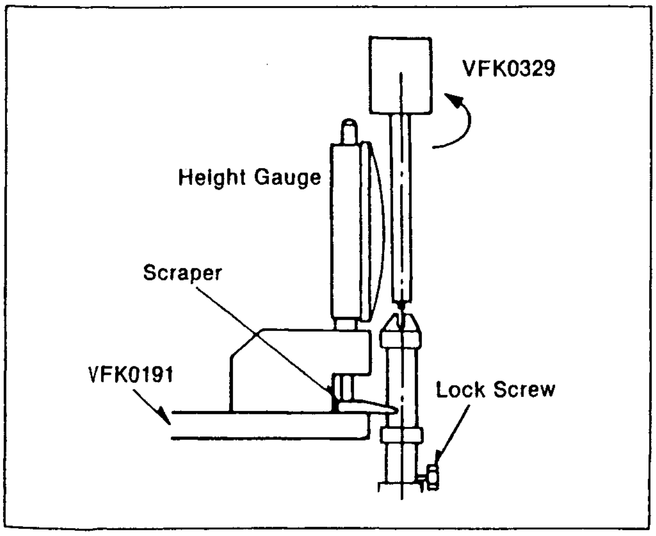


Figure M8

*Note:
Before turning P2 and P3 posts, slightly loosen the Lock Screw using the L Type Screwdriver.

4. Place the scraper of Reel Table Height Gauge as shown in Figure M9.
   Set the gauge to zero, then raise the post slowly until the lower tape guide just touches the bottom of the scraper. Use the gauge to determine the exact point at which the lower tape guide touches the scraper.

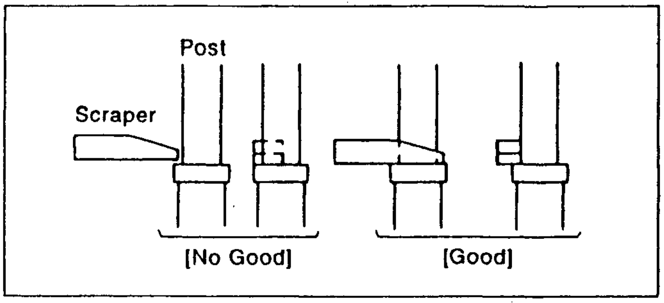


Figure M9

*Note:
After the adjustment, install the cassette compartment refering to Reinstllation of cassette compartment procedures.

2-2. ADJUSTMENT OF THE PULL-OUT POSTHEIGHT

*Tools and Equipment Required:

Post Adjustment Plate	VFK0191
Reel Table Height Gauge	VFK0190
Nut Driver	(Purchase locally)

* Specification..................-0.06 +/- 0.01mm

*Note:
Unless the replacement or adjustment this post is required, the adjustment nut should not be turned.

1. Remove the cassette compartment.
2. Place the Post Adjustment Plate over the reel tables.
3. Turn the Capstan Motor counterclockwise (loading direction) until the mechanical condition becomes as shown in Figure M10.

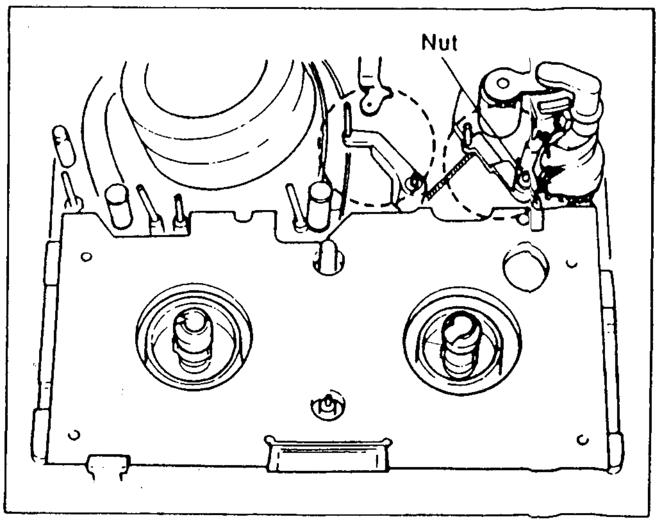


Figure M10

4. Place the Reel Table Height Gauge on the Post Adjustment Plate and set the gauge to zero "0" as shown in Figure M11.

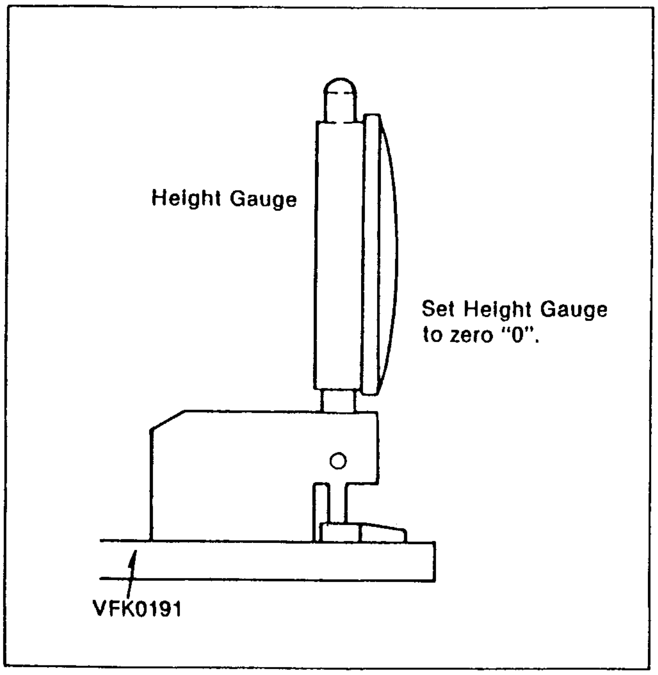

Height Gauge
Set Height Gauge to zero "0".
VFK0191

Figure M11

5. Place the Reel Table Height Gauge as shown in Figure M12 and turn the nut slowly until the gauge reads −0.06 +/− 0.01mm.

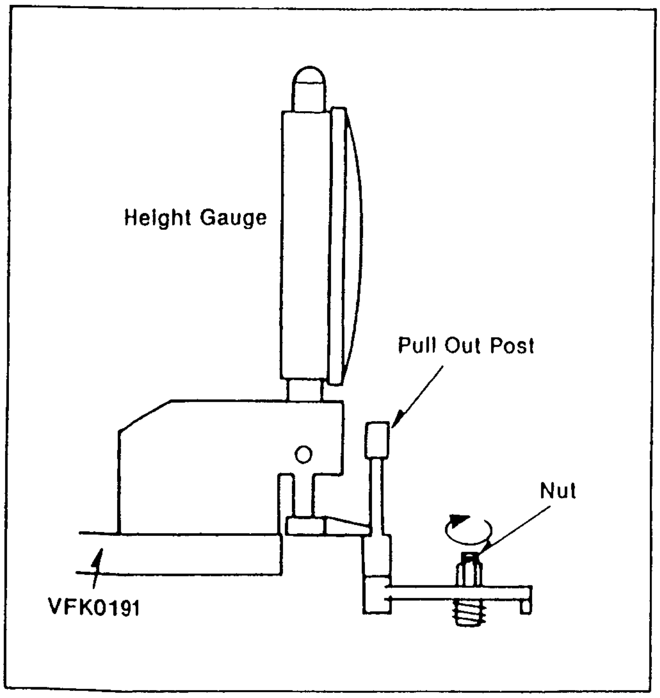

Height Gauge
Pull Out Post
Nut
VFK0191

Figure M12

6. After the adjustment, install the cassette compartment. (Refer to Reinstallation of Cassette Compartment procedures).
7. Play back a normal cassette tape and make sure that the edges of the tape are not curling at the bottom or top end of the posts P1, P2, P3, P4 and pull out post as shown in Figure M13 and M14.

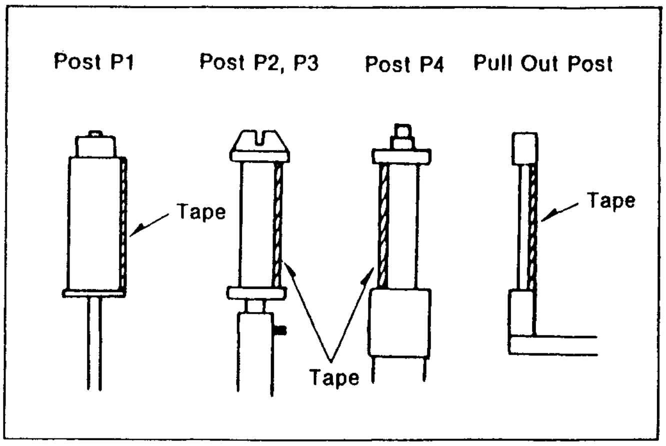

Post P1
Post P2, P3
Post P4
Pull Out Post
Tape
Tape
Tape

Figure M13

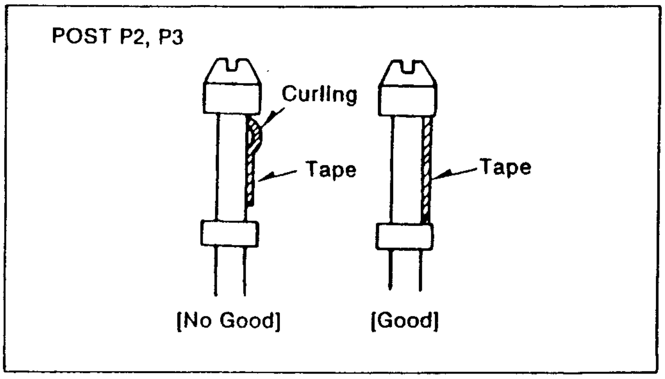

POST P2, P3
Curling
Tape
Tape
[No Good]
[Good]

Figure M14

8. If curling appears, readjusts each post (except P1, P4).

2-3. TILT & AZIMUTH ADJUSTMENT OF THE A/C HEAD

*Note:
This procedure should be performed only when the A/C Head is replaced and posts hight are readjusted.

*Equipment Required:
Alignment Tape........................VFM8180HADH
Check Light..............................VFK0343

1. Connect the oscilloscope to the audio output on the rear panel.
2. Play back the 2nd portion (Normal Audio10KHz) of the alignment tape (VFM8180HADH).
3. Adjust the screw (J)(Figure M15) so that the output level becomes maximum as shown in Figure M16.
4. Adjust the screw (H)(Figure M15) so that the output level becomes maximum as shown in Figure M16.
5. Confirm that the tape runs around lower limiter of P4 post by using the Check Light.
6. If there is waving or frilling in the lower edge (Figure M17), then repeat step 3 to 4.

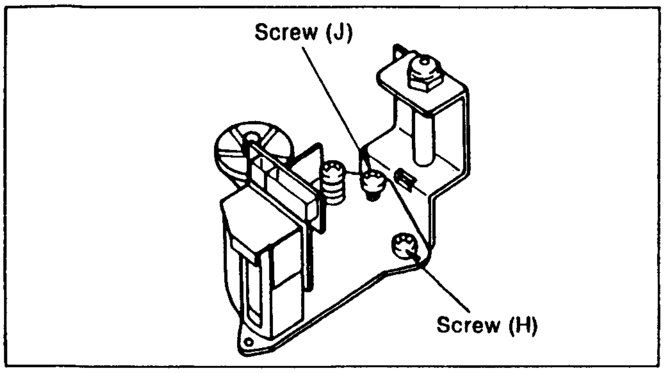


Figure M15

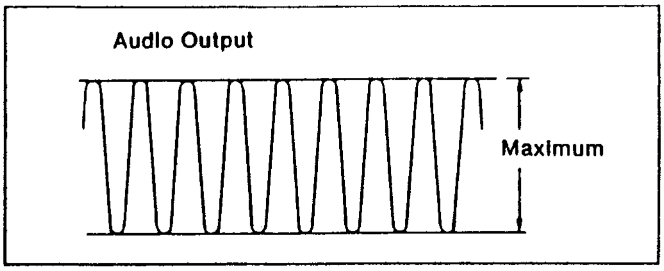


Figure M16

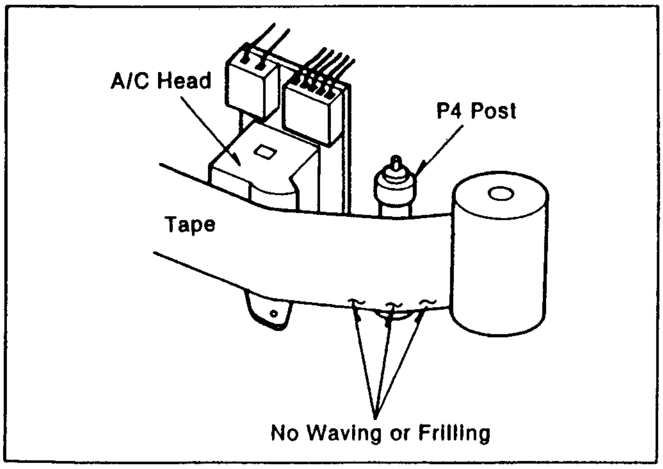


Figure M17

*Note:
After Tilt adjustment of A/C head, height adjustment of A/C head is required.

2-4. CONFIRMATION OF THE ENVELOPE OUTPUT

*Tools and Equipment Required:
Alignment Tape......................VFM8180HADH
Post Adjustment Screwdriver.............VFK0329

*Note:
Before playing back the alignment tape, playback a normal cassette tape and confirm correct transport.

1. Connect the scope to test point of video FM envelope and test point of head switching pulse to Ext-Trigger the scope.
2. Playbackthe 1-st portion (Monoscope 1) of the alignment tape VFM8180HADH.
3. Press the Tracking Control Button and adjust for maximum VIDEO FM envelope.
4. If the RF envelope appears like example "A" or "B" in Figure M18 then adjustment of the tape guide post (P2 : Entrance) is necessary.
5. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Figure M18-"C".

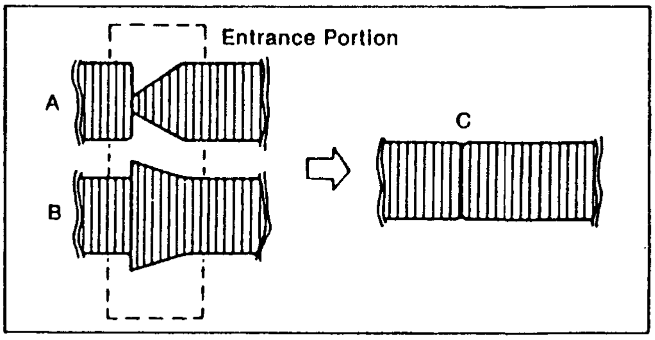


Figure M18

6. If the RF envelope appears like example "D" or "E" in Figure M19, then adjustment of the tape guide post (P3 : Exit) is necessary.
7. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in Figure M19-"F".

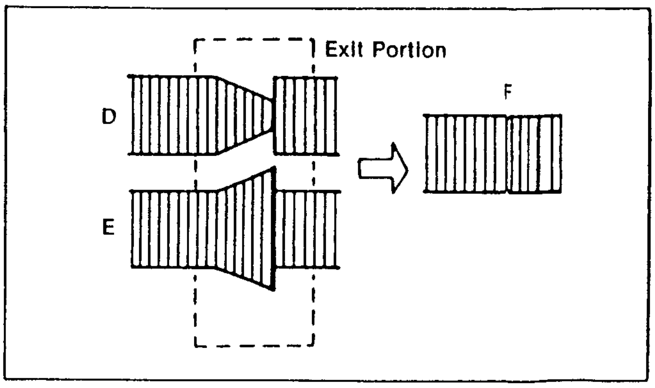


Figure M19

8. Press the (+) side and (−) side of Tracking Button simultaneously. The output envelope should vary nearly parallel with other condition as shown in Figure M20.
9. Press the Tracking Button into center fix position and adjust for maximum RF envelope.
If the RF envelope does not meet these specifications,

$$V1/V0>=0.7, V2/V0>=0.8, V3/V0>=0.7$$

then repeat steps 1-9 again.

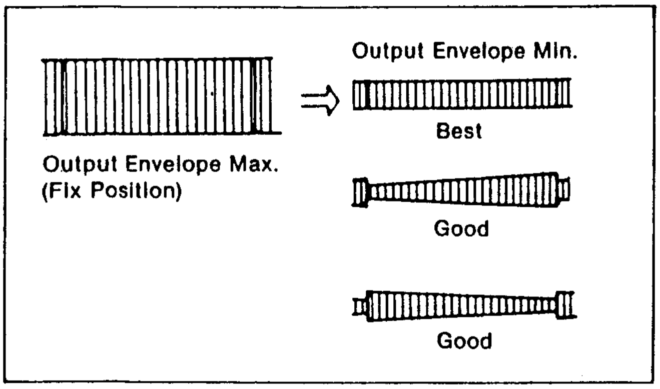


Figure M20

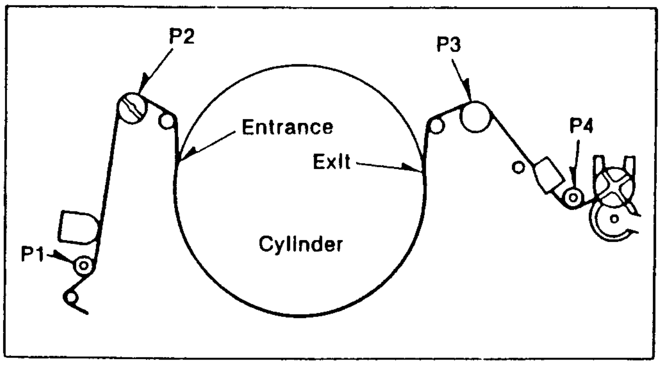


Figure M21 Loading of Posts

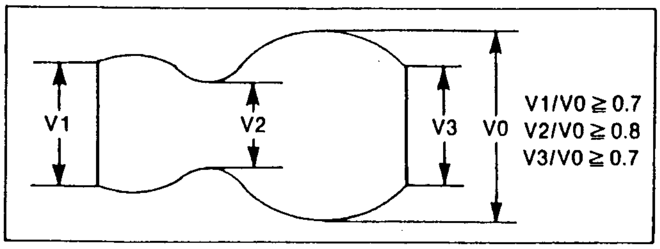


Figure M22 Spec. of Envelope Figure

2-5. COARSE ADJUSTMENT OF A/C HEAD HEIGHT

*Note:
This procedure should be performed only when the A/C Head is replaced.

*Tools and Equipment Required:
Check Light..............................VFK0343
Nut Driver....................(Purchase locally)

With the tape running, look at the lower edge of the control head by using the check light and check if the lower edge of tape runs along the lower edge of the control head.
If it doesn't slightly turn the nut (K) behind the A/C Head (Figure M23) to either lower or raise the A/C head so that the tape runs along the lower edge of the control head.
Turn the nut (K) clockwise to lower the head, and counter–clockwise to raise it.

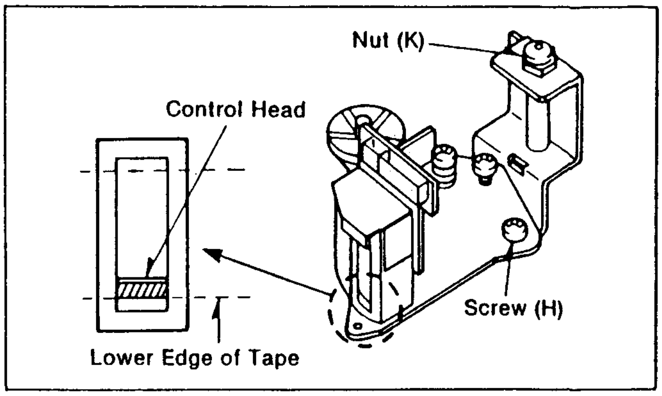


Figure M23

2-6. FINE ADJUSTMENT OF THE A/C HEAD HEIGHT

*Note:
When the A/C head is replaced, the coarse adjustment of the A/C head height is required before performing this fine adjustment.

*Tools and Equipment Required:
Alignment Tape.......................VFM8180HADH
NutDriver....................(Purchase locally)

1. Connect the oscilloscope to the audio output on the rear panel.
2. Play back the 2–nd portion (Normal Audio 10 KHz) of the alignment tape (VFM8180HADH).
3. Adjust the nut (K)(Figure M23) so that the envelope becomes maximum.

2-7. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION

*Note:
This procedure should be performed only when the A/C head is replaced, and after performing the tape interchangeability adjustment.

*Tools and Equipument Required:
H–Position Adjustment Screwdriver........VFK0328
Alignment Tape.......................VFM8180HADH

1. Press the Tracking Control Button and fixed to center detent position.
2. Connect the scope to test point of video FM envelope and scope CH2 to the Audio Output on the rear panel.
3. Playback the 4–th position (Monoscope 3 and Audio / Every 10–th field is skipped) of the Alignment tape VFM8180HADH.
4. Adjust A/C head horizontal position screw (Figure M24) so that the phase of audio drop out and video RF envelope drop–out becomes the same. (Figure M25)

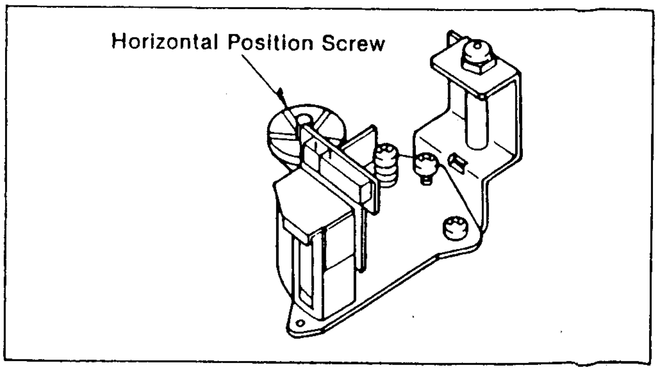


Figure M24

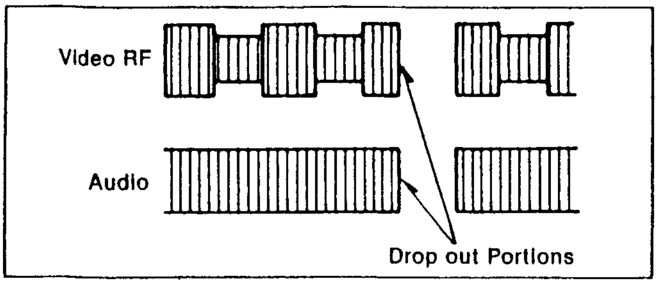


Figure M25 Horizontal Position Adjustment of A/C Head

*Note:
After completion the fine adjustment of the A/C head horizontal position, the phase of Audio drop-out and Video RF envelope drop-out may be changed slightly.

2-8. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE)

*Note:
This procedure should be performed only when the A/C head is replaced, and after performing the tape interchangeability adjustment.

*Tools and Equipument Required:
H-Position Adjustment Screwdriver........VFK0328
Alignment Tape.......................VFM8180HADH

1. Press the Tracking Control Button and fixed to centre position.
2. Connect the oscilloscope to test point of video FM envelope.
3. Play back the 1-st portion of the alignment tape (VFM8180HADH).
4. Adjust the Horizontal Position Screw of A/C head so that the RF signal becomes maximum level.

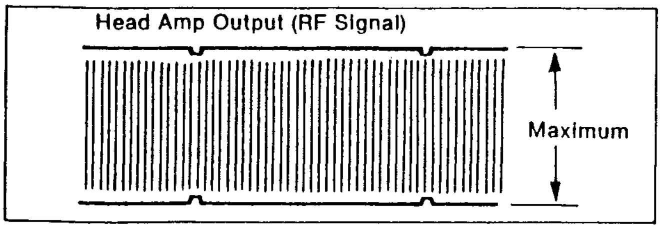


Figure M26

3-5. OTHER MECHANICAL ADJUSTMENT PROCEDURES

1. TENSION ADJUSTMENT OF TIMING BELT

*Equipment Required:
Fan Type Tension Gauge.....................VFK66
*Specification...........................40 +/- 5g

1. Loosen a screw (L) slightly by using the screwdriver.
2. Set the Fan Type Tension Gauge to the direction indicated by the arrow (M) as shown in Figure M27.
3. Tighten a screw (L) when the reading of the Fan Type Tension Gauge becomes within 40 +/- 5g.

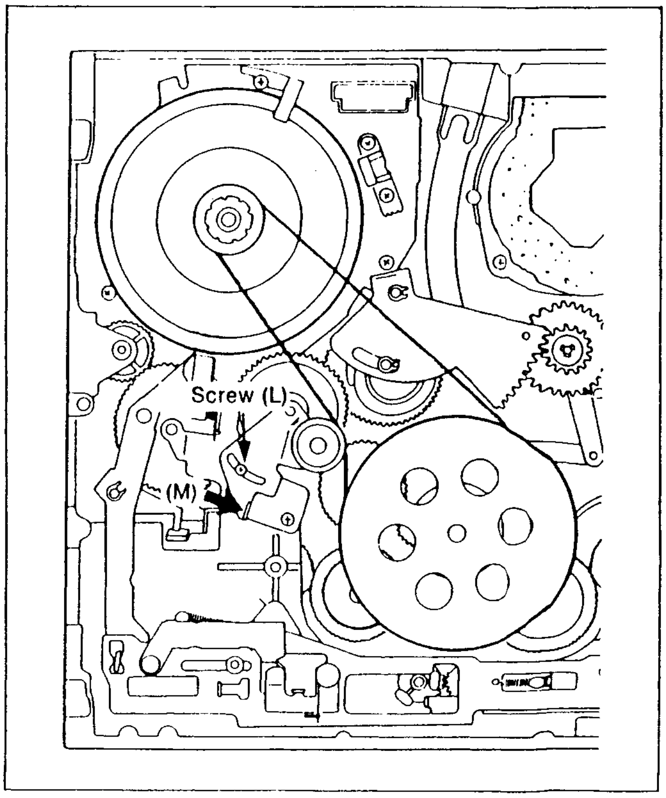


Figure M27

2. POSITION ADJUSTMENT OF TENSION POST

*Equipment Required:
Tension Post Adjustment Plate............VFK0387
Hex. Wrench:2mm(Hex Wrench Set)..........VFK0326

1. Disconnect the AC plug.
2. Remove the cassette compartment.
3. Turn the Capstan Motor to the clockwise while the change lever is being pushed until the loading is completed as shown in Figure M28.

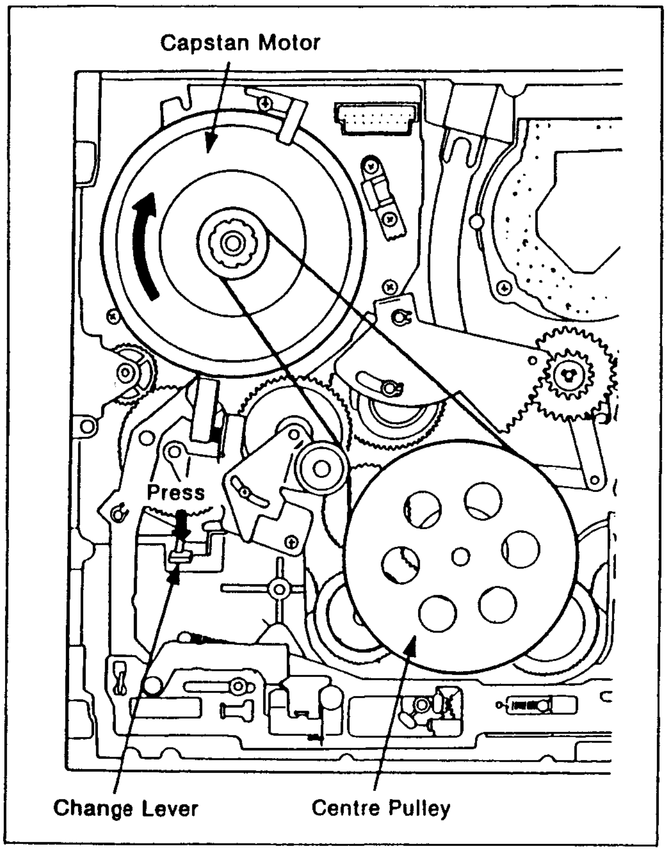

Capstan Motor
Press
Change Lever
Centre Pulley

Figure M28

4. Place the Adjustment Plate and insert the hex wrench into the hole of Tension Band Fastener shown in Figure M29.
5. Adjust the hole of Tension Band Fastener by using the hex wrench so that the Tension Post just touches the fixture of Adjustment Plate.
6. After the Adjustment, turn the Capstan Motor until the unloading is completed.

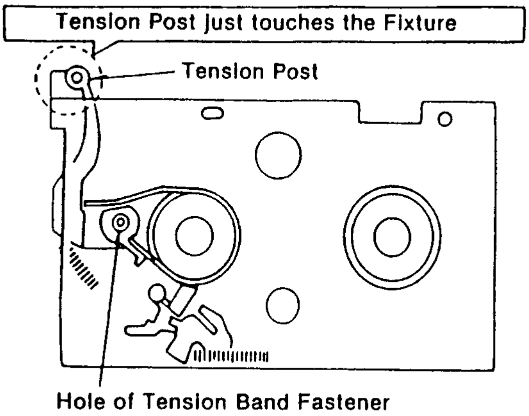

Tension Post just touches the Fixture
Tension Post
Hole of Tension Band Fastener

Figure M29

*Note: When you assemble cassette compartment, refer to "Reinstallation of Cassette Compartment".

3. MEASUREMENT AND ADJUSTMENT OF BACK TENSION

*Equipment Required:
Back Tension Meter........................VFK0132
VHS Cassette Tape (120 minutes tape)
*specification........................22.5 ~ 27.5g

1. Playback the cassette tape from the beginning and wait until the tape movement get the stabilization. (for approx. 10~20 seconds)
2. Pull the impedance Roller in the directgion indicated the arrow in Figure M30 secure it with a piece of adhesive tape.
3. Insert the Back Tension Meter into the path of a tape, and measure the back tension to be within specification as shown in Figure M30.

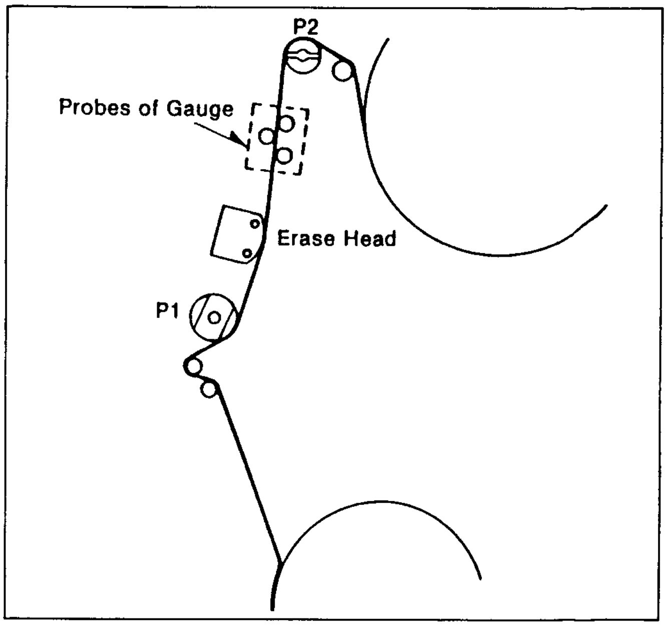

P2
Probes of Gauge
Erase Head
P1

Figure M30 Measurement of Back Tension

4. If it is out of specification, change the spring notch as shown in Figure M31.

*Notes:
1. While measuring, make sure that the three probes of the meter are all in good contact with the tape.
2. As the tension meter is very sensitive, we recommend taking 3 separate readings.

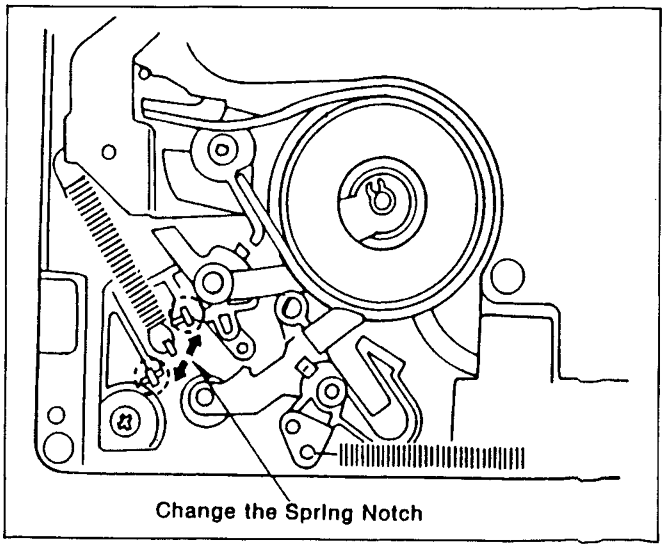

Change the Spring Notch

Figure M31

4. HEIGHT ADJUSTMENT OF THE REEL TABLES

*Equipment Required:
Post Adjustment Plate....................VFK0191
Reel Table Height Gauge..................VFK0190
*Specification...........................0 ~ 0.2mm

1. Remove the cassette compartment.
2. Place the Post Adjustment Plate on the reel tables.
3. Place the Reel Table Height Gauge on the plate so that the scraper of the gauge touches the cut-out portion of the plate, then set the gauge to zero "0" as shown in Figure M32.

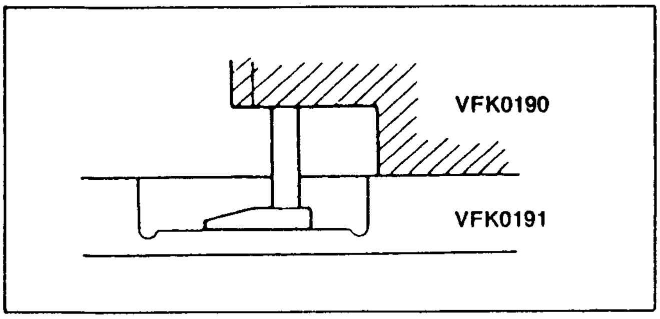


Figure M32

4. Measure the meter indication of top surface of reel table as shown in Figure M33. And then perform the same measurement and confirmation for the other reel table.

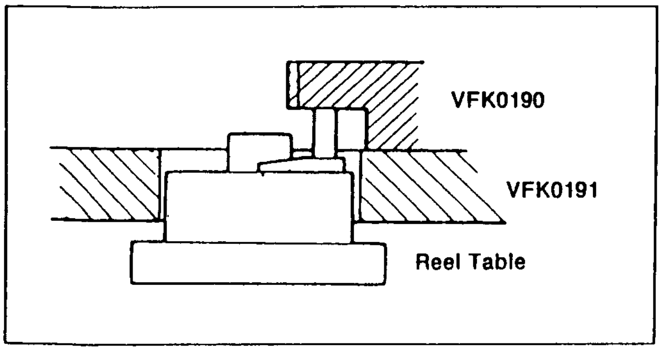


Figure M33

5. If the difference is more than 0.2mm higher or lower, replace or remove the poly-slider washer located under the reel table with one of the appropriate thickness. Reel washers are avilable in thickness of 0.2mm, 0.3mm and 0.5mm.

Washer / Thickness	Parts No.
0.2mm	VMX1238
0.3mm	VMX1239
0.5mm	VMX1171

Figure M34

5. ADJUSTMENT OF THE CAPSTAN THRUST GAP

*Equipment Required:
Reel Table Height Gauge..................VFK0190
Height Adjustment Fixture................VFK0344
*Specification........................0.5 ~ 0.55mm

1. Turn a Thrust Adjust Screw slightly until the capstan roter unit just touches the coil of the capstan stator unit.

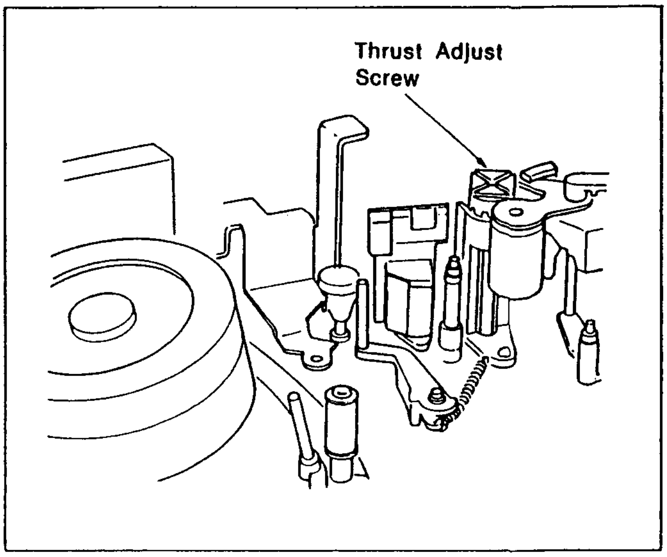


Figure M35

2. Set the Height Adjustment Fixture on the Capstan Roter unit.
3. Place the height gauge on the bottom case unit and set the height gauge to zero "0".

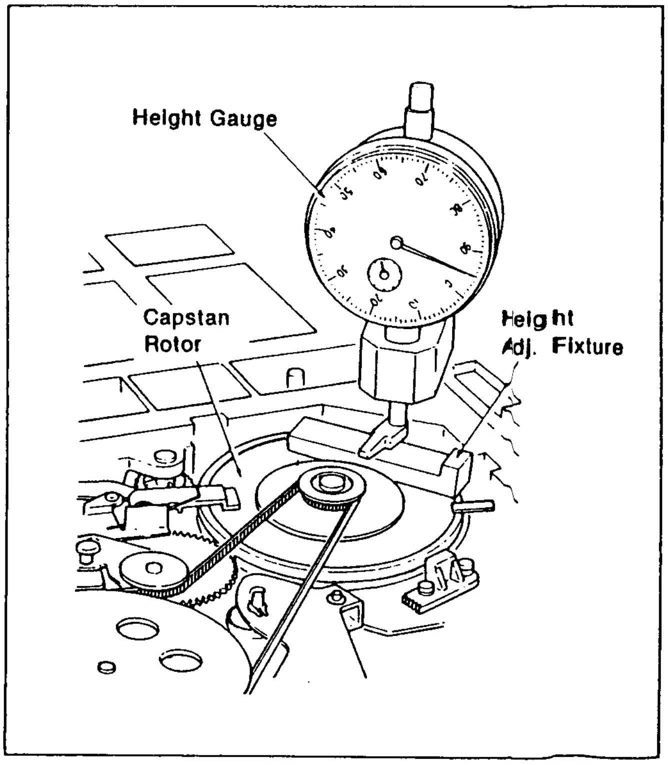


Figure M36

4. Adjust a Thrust Adjust Screw so that the thrust gap becomes 0.5 ~ 0.55mm.

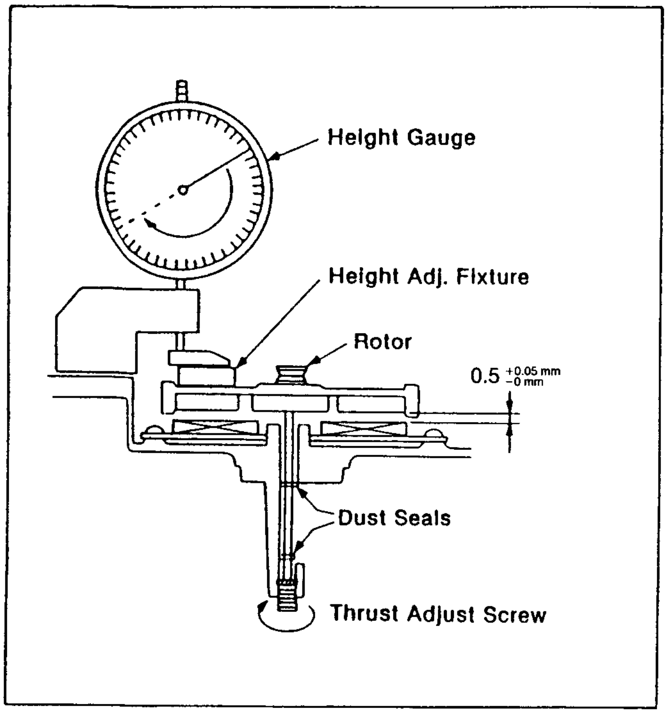

Height Gauge
Height Adj. Fixture
Rotor
0.5 +0.05 mm -0 mm
Dust Seals
Thrust Adjust Screw

Figure M37

3-6. ASSEMBLY AND ADJUSTMENT PROCEDURES OF MECHANISM

The mechanism of this model is mostly engaged to the System Control Circuit, through the mode select switch.
Therefore the relation between the mode select switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If these parts are not fixed properly, the unit will be unloaded or compulsorily stopped.
And it will result being damaged at any mechanical or electrical parts.
The overall mechanical condition (alignment) of bottom and top view are shown in Figure M38 and Figure M39. This mechanical adjustment is performed in STOP mode.

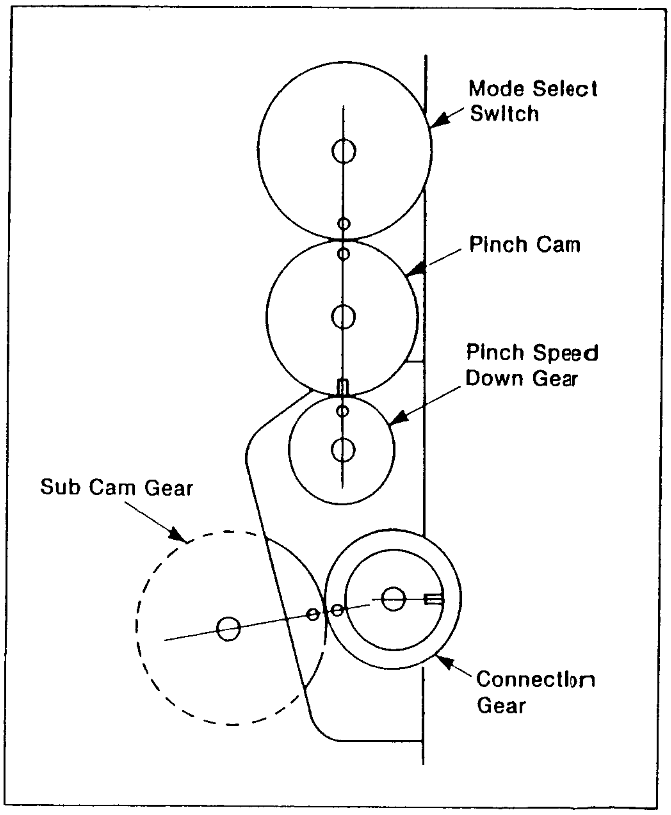

Mode Select Switch
Pinch Cam
Pinch Speed Down Gear
Sub Cam Gear
Connection Gear

Figure M38 Bottom View of Overall G–Mechanical Condition

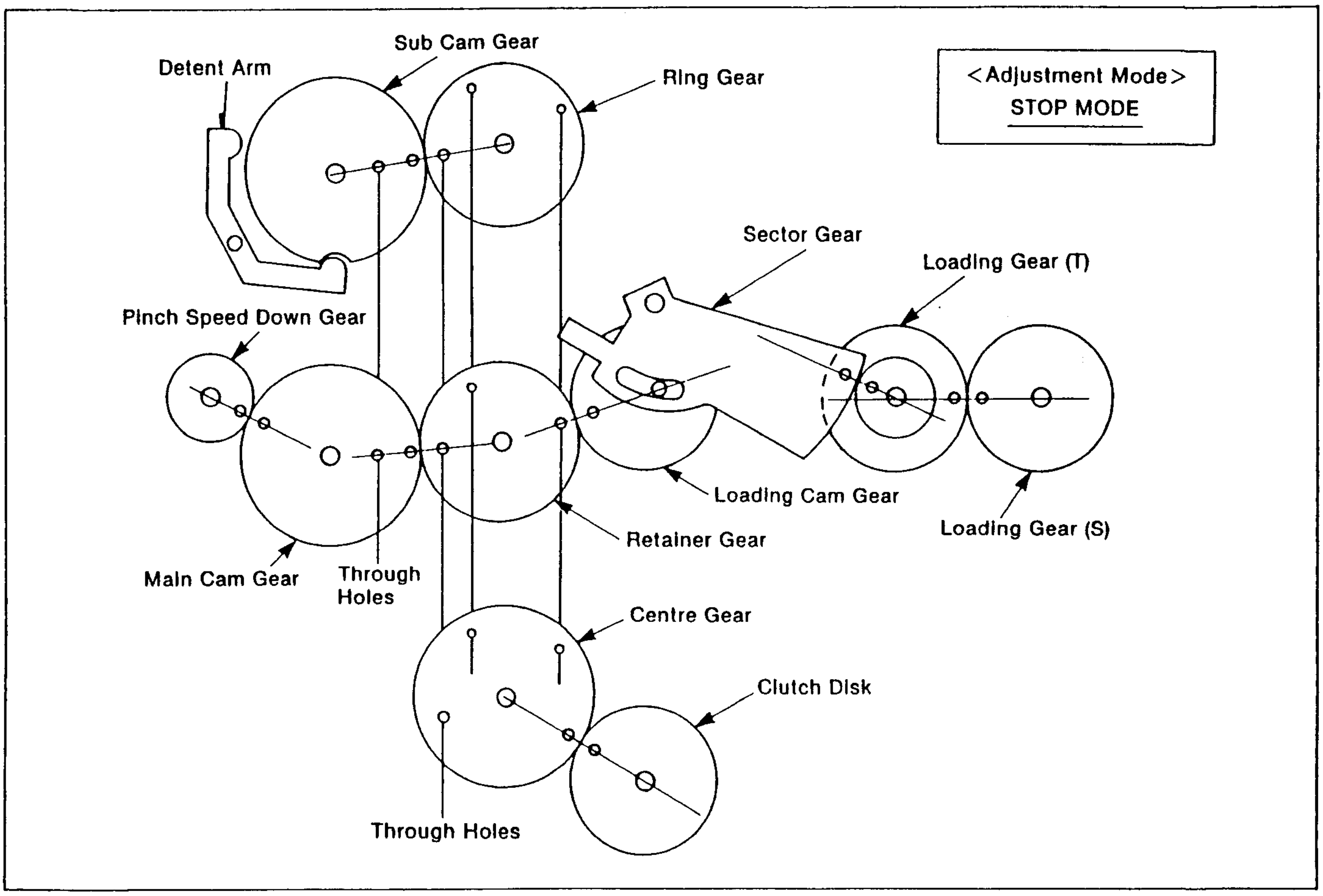

Detent Arm
Sub Cam Gear
Ring Gear
<Adjustment Mode>
STOP MODE
Sector Gear
Loading Gear (T)
Pinch Speed Down Gear
Loading Cam Gear
Loading Gear (S)
Retainer Gear
Main Cam Gear
Through Holes
Centre Gear
Clutch Disk
Through Holes

Figure M39 Top View of Overall Mechanical Condition

1. ASSEMBLY PROCEDURES OF SUB CAM GEAR, RING GEAR AND DETENT ARM

1. Install the Ring Gear so that the two holes in the Ring Gear align with the two holes in the chassis as shown in Figure M40.
2. Install the Sub Cam Gear so that the large hole in Sub Cam Gear is aligned with the hole in chassis. Also the small hole (located just outside of large hole) on Sub Cam Gear should align with the hole on Ring Gear as shown in Figure M40.

*Note: It may be best to also align Connection Gear (on top side) with Sub Cam Gear as shown in Figure M38.

3. Install the Detent Arm and make sure Detent Arm seats perfectly in detent of Sub Cam Gear as shown in Figure M40.

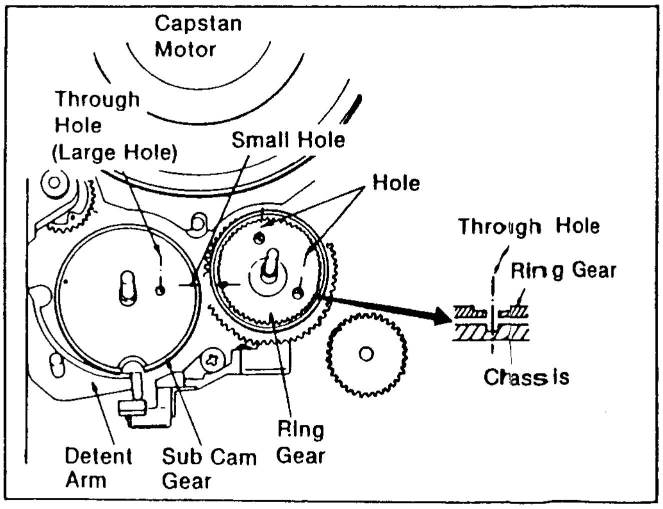

Capstan Motor
Through Hole (Large Hole)
Small Hole
Hole
Through Hole
Ring Gear
Chassis
Ring Gear
Detent Arm
Sub Cam Gear

Figure M40

2. ASSEMBLY PROCEDURES OF MAIN CAM GEAR AND PINCH SPEED DOWN GEAR

1. Install the Main Cam Gear onto the Sub Cam Gear so that the large hole on the Main Cam Gear aligns with large hole on the Sub Cam Gear and chassis as shown in Figure M41.
2. Install the Pinch Speed Down Gear from top side of chassis so that the outer hole on the Main Cam Gear aligns with small hole on the Pinch Speed Down Gear as shown in Figure M41.

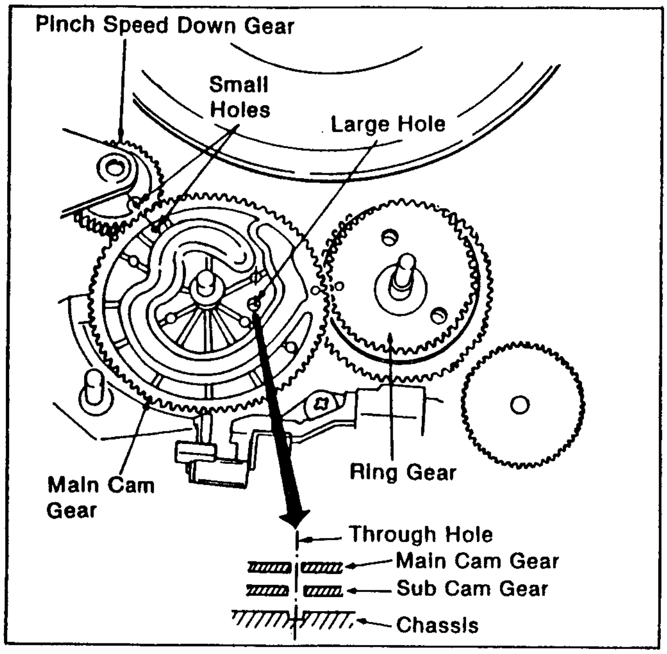

Pinch Speed Down Gear
Small Holes
Large Hole
Main Cam Gear
Ring Gear
Through Hole
Main Cam Gear
Sub Cam Gear
Chassis

Figure M41

3. ASSEMBLY PROCEDURES OF RETAINER GEAR AND LOADING CAM GEAR

1. Install the Retainer Gear onto the Ring Gear so that the two holes in the Retainer Gear align with the two holes in the Main Cam Gear, at this time, small indent outside of large hole on the Main Cam Gear should align with small hole on the Retainer Gear as shown in Figure M42.

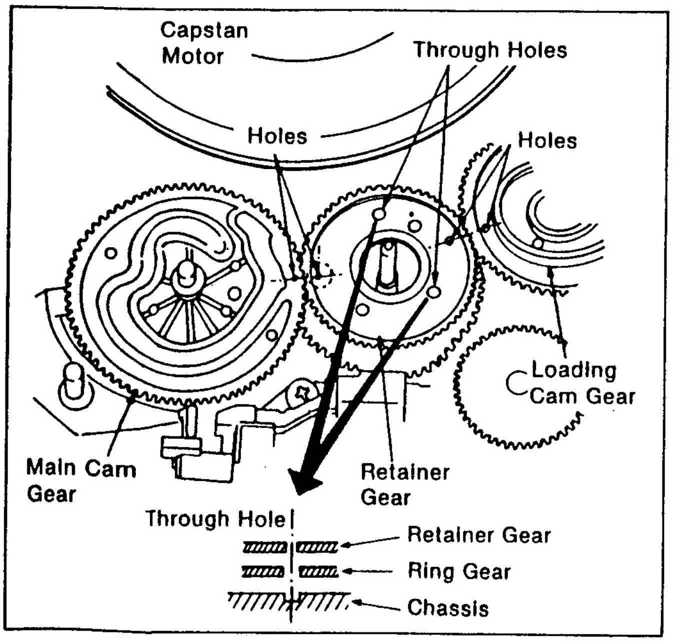

Capstan Motor
Through Holes
Holes
Holes
Loading Cam Gear
Main Cam Gear
Retainer Gear
Through Hole
Retainer Gear
Ring Gear
Chassis

Figure M42

2. Push the Sub Loading Arm to the STOP position and keep it as shown in Figure M43.
3. Install the Loading Cam Gear so that the small hole which is directly outside of the large hole on the Loading Cam Gear is aligned with the outside hole of the Retainer Gear as shown in Figure M42.

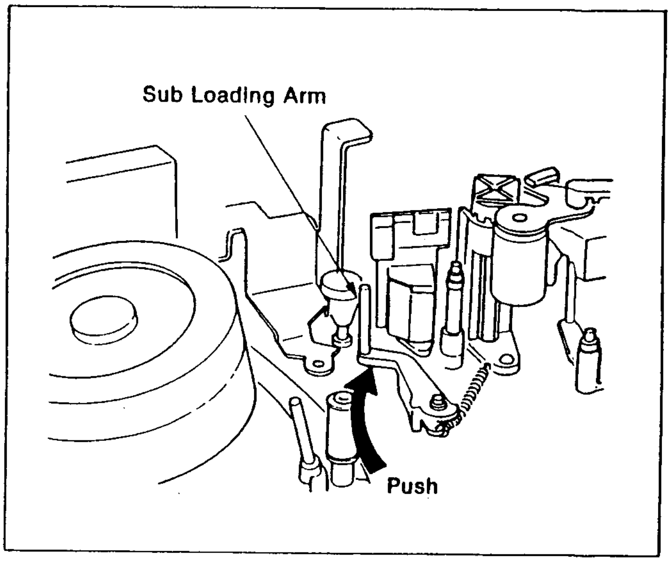

Sub Loading Arm
Push

Figure M43

4. ASSEMBLY PROCEDURES OF CENTRE GEAR

1. Install the Center Gear onto the Retainer Gear so that the two holes in the Center Gear align with the holes on the Retainer Gear, then install the cut washer as shown in Figure M44.
2. Install the Clutch Disk so that the small outside hole on the Center Gear aligns with the small outside hole on the Clutch Disk, then insert the cut washer as shown in Figure M44.
3. Install the Center Pully and cut washer.

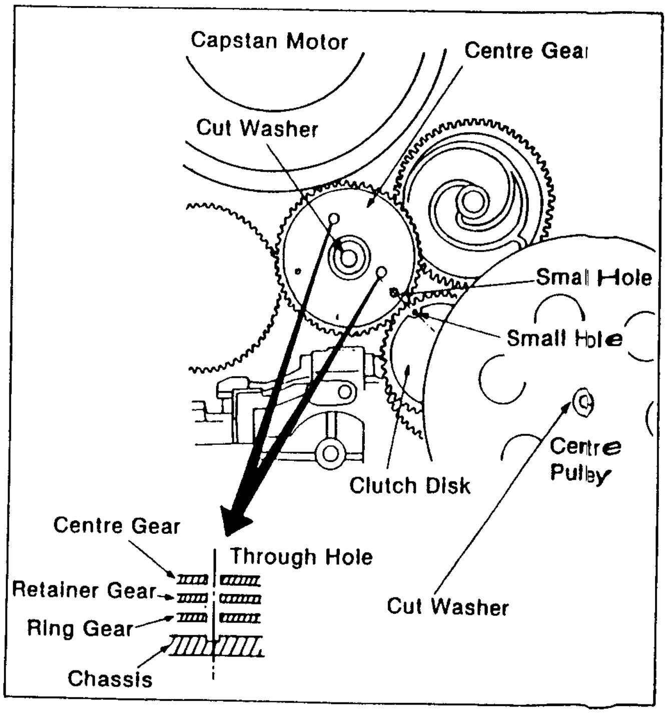

Capstan Motor
Centre Gear
Cut Washer
Small Hole
Small Hole
Centre Pulley
Clutch Disk
Centre Gear
Through Hole
Retainer Gear
Ring Gear
Chassis
Cut Washer

Figure M44

5. ASSEMBLY PROCEDURES OF MAIN LEVER UNIT AND CAM FOLLOWER ARM UNIT

1. Install the Main Lever Unit so that the pins which are in the correct position as shown in Figure M45. The Main Lever Unit should seat perfectly without having to apply outside pressure, insert the cut washers.
2. Install the Cam Follower Arm so that the pin of the Cam Follower Arm inserts into the groove of the Main Cam Gear and also inserts into the slot on the Main Lever Unit, insert the retaining ring as shown in Figure M46.

*Note: Be careful not to bend Cam Follower Arm.

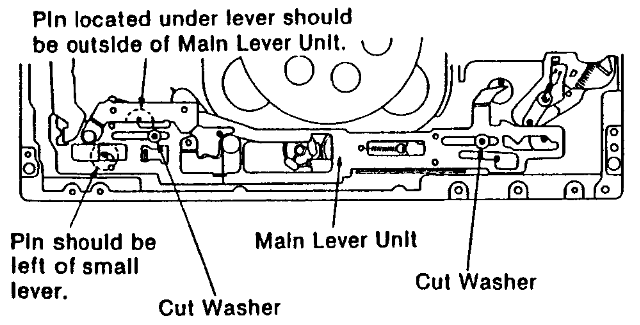

Pin located under lever should be outside of Main Lever Unit.
Pin should be left of small lever.
Main Lever Unit
Cut Washer
Cut Washer

Figure M45

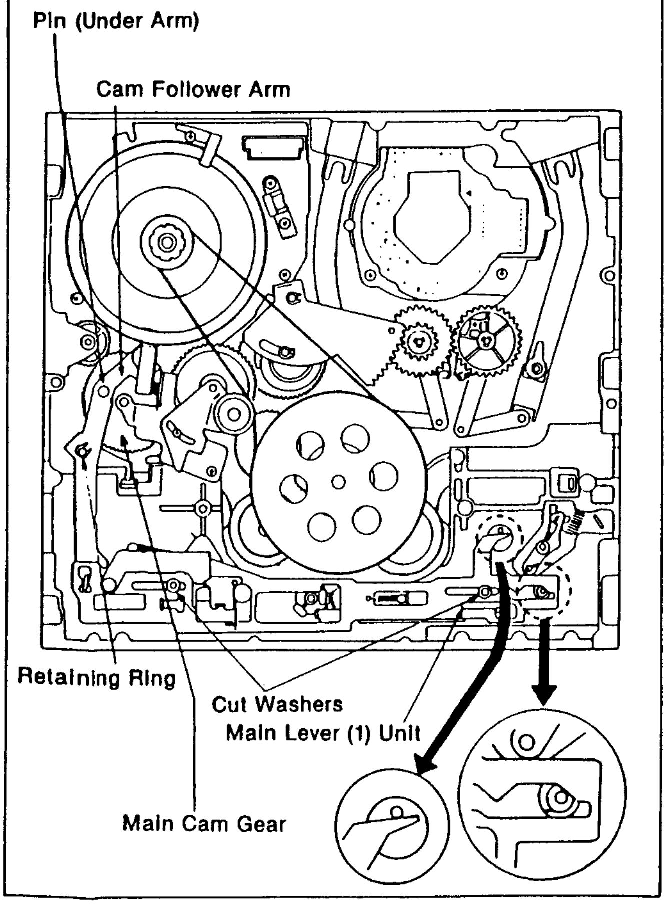

Pin (Under Arm)
Cam Follower Arm
Retaining Ring
Cut Washers
Main Lever (1) Unit
Main Cam Gear

Figure M46

6. ASSEMBLY PROCEDURES OF LOADING GEAR (T), LOADING GEAR (S) SECTOR GEAR, TENSION ROLLER AND TIMING BELT

1. Set the P2 and P3 posts to fully unloaded position, then install the Loading Gear (T) and (S) so that the outer hole in the Loading Gear (T) aligns with the outer hole in the Loading Gear (S).(Figure M47)
2. Install the Sector Gear so that the outer hole in the Sector Gear aligns with the projection mark on Loading Gear (T). Then insert the retaining rings.(Figure M47)
3. Install the Tension Roller Unit and' SS Brake Unit, then tighten the screws.
4. Install the Timing Belt.

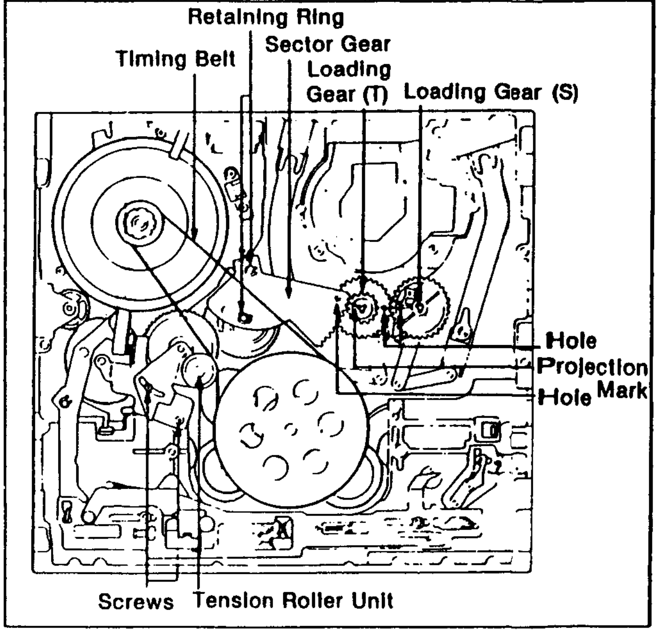

Retaining Ring
Timing Belt
Sector Gear
Loading Gear (T)
Loading Gear (S)
Hole
Projection Mark
Hole
Screws
Tension Roller Unit

Figure M47

7. ASSEMBLY PROCEDURES OF CONNECTION GEAR

*Note: Before assembling, Sub Cam Gear position (and positions of bottom side gears) must be correct as described before (STOP mode).

1. Install the Connection Gear so that the small hole in the Connection Gear aligns with the small hole in the Sub Cam Gear as shown in Figure M48.

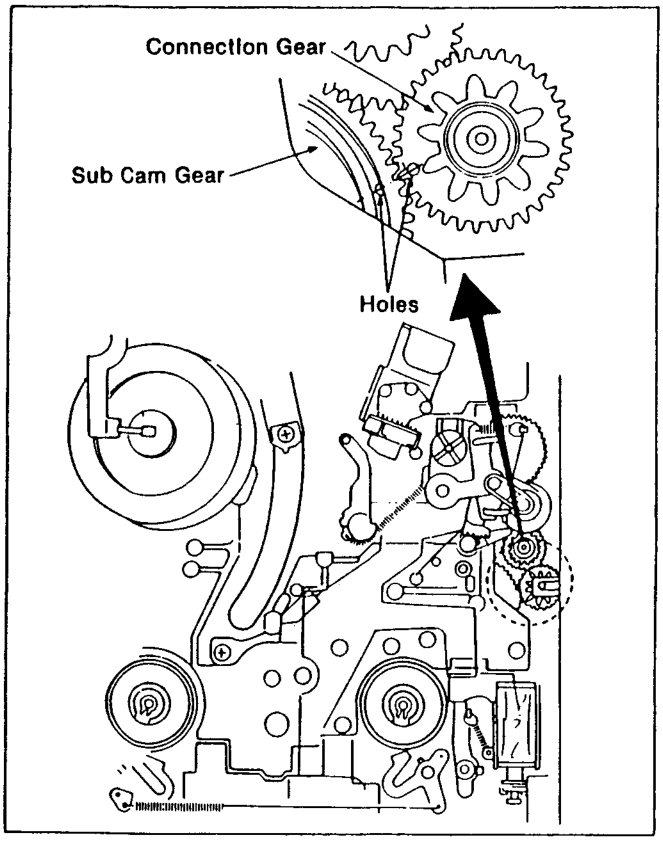

Connection Gear
Sub Cam Gear
Holes

Figure M48

8. ASSEMBLY PROCEDURES OF MODE SELECT SWITCH AND P5 PULL OUT SECTOR GEAR

1. Install the Mode Select Switch and tighten the mounting screw, then solder the 5 soldering portions.
2. Install the P5 Pull Out Sector Gear so that the hole of P5 Pull Out Sector Gear aligns with the tip of edge at P5 gear as shown in Figure M49.

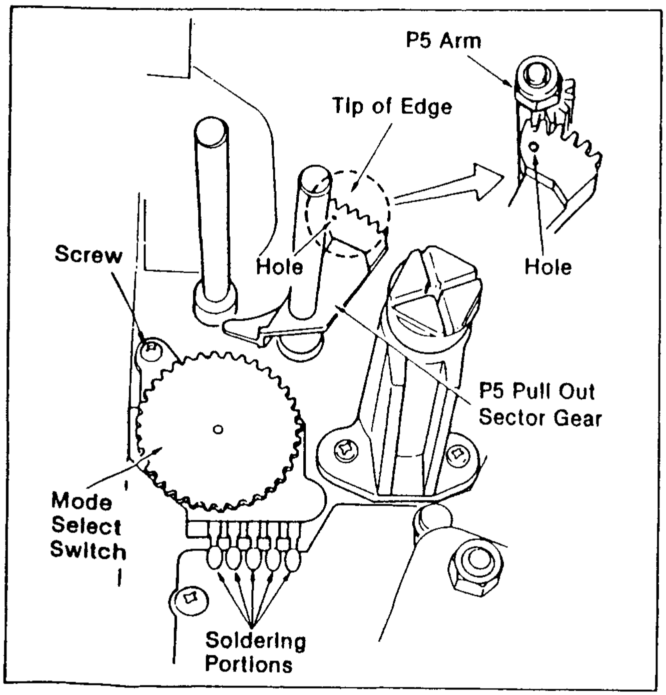

P5 Arm
Tip of Edge
Screw
Hole
Hole
P5 Pull Out Sector Gear
Mode Select Switch
Soldering Portions

Figure M49

9. ASSEMBLY PROCEDURES OF PINCH CAM AND PRESSURE ROLLER UNIT

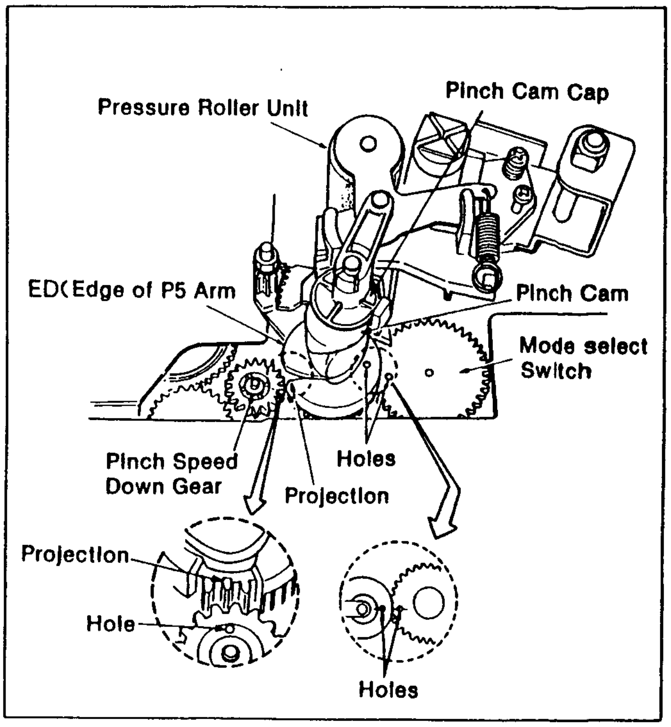

Pressure Roller Unit
Pinch Cam Cap
ED(Edge of P5 Arm
Pinch Cam
Mode select Switch
Pinch Speed Down Gear
Holes
Projection
Projection
Hole
Holes

Figure M50

1. Install the Pinch Cam while pushing the P5 post forwad. The Pinch Cam Gear should drop to a seated position. In this position make sure hole in the Mode Select Switch aligns with small hole on the Pinch Cam, also the small rift on the Pinch Cam should align with the hole on the Pinch Speed Down Gear as shown in Figure M50.
2. Install the Pressure Roller Unit. Make sure the seats perfectly onto the Pinch Cam, then install the Pinch Cam Cap.

10. REINSTALLATION OF CASSETTE COMPARTMENT

When you reinstall the cassette compartment, the position adjustment (alignment) of mechanism is necessary for correct operation, as follows.

A. Comfirmation of STOP (Sub-load) Position (Refer to Figure M39)

1. Press the change Lever in the direction indicated by arrow mark as shown in Figure M51 (to release the lock).
2. Turn the Capstan Motor counter-clockwise or clockwise until mechanism is placed into the STOP position as following conditions.

a) Identification hole on the Mode Select Switch at 6 o'clock position and aligned with small hole on Pinch Cam.
b) The projection on the Pinch Cam should align with small hole on Pinch Speed Down Gear.
c) Small hole on Sub Cam Gear should align with small hole on the Connection Gear and rectangular mark on the Connection Gear should be at a 3 o'clock position.

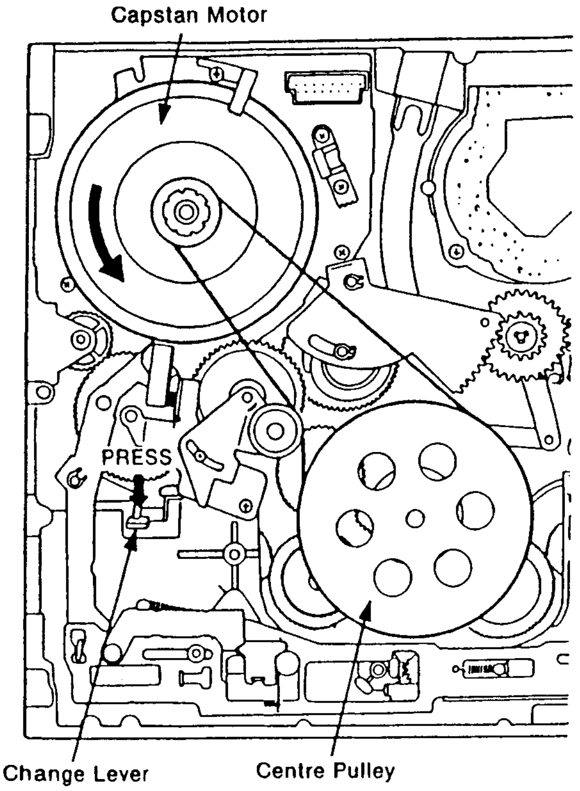
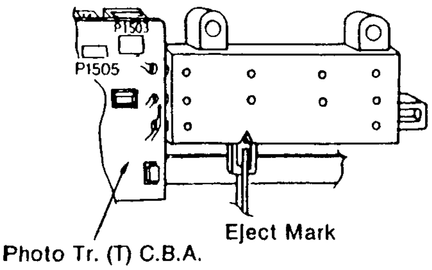


Figure M51



<Cassette Switch>

Figure M52

B. Confirmation of Cassette Compartment

1. Confirm that the Cassette Compartment is aligned properly. In the EJECT position (Cassette Holder up and advanced to the front) the two V-shaped marks on the slide switch should align. The slide switch is located on the right side of the Cassette Assembly towards the rear as shown in Figure M52.
2. Remove the 2 screws (A) as shown in Figure M53
3. Take the top plate out.
4. Take the cassette Holder unit out as shown in Figure M54.

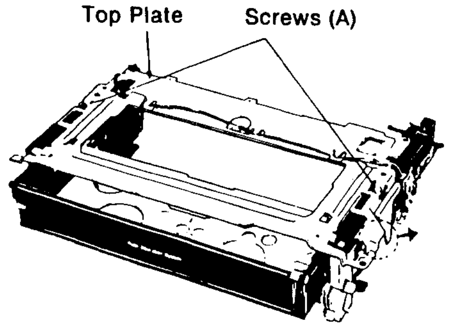


Figure M53

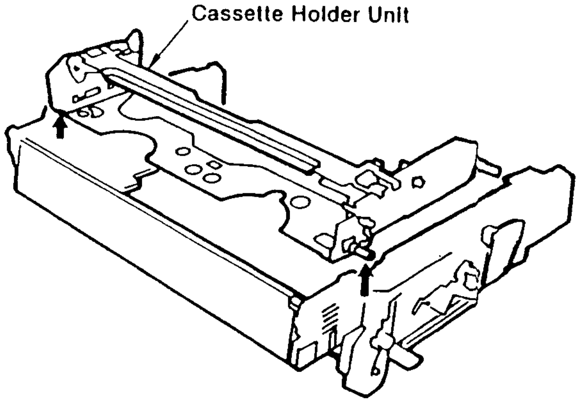


Figure M54 Removal of cassette holder unit

5. Press the Sub Wiper Arm (R) to direction indicated by arrow so that the Sub Wiper Arm (R) comes to cassette down position (STOP) completely as shown in Figure M55 and keep it.
In this position, the arrow on the Sub Wiper Arm(R) should align with the arrow on the Rack (A)(1) Unit as shown in Figure M56.

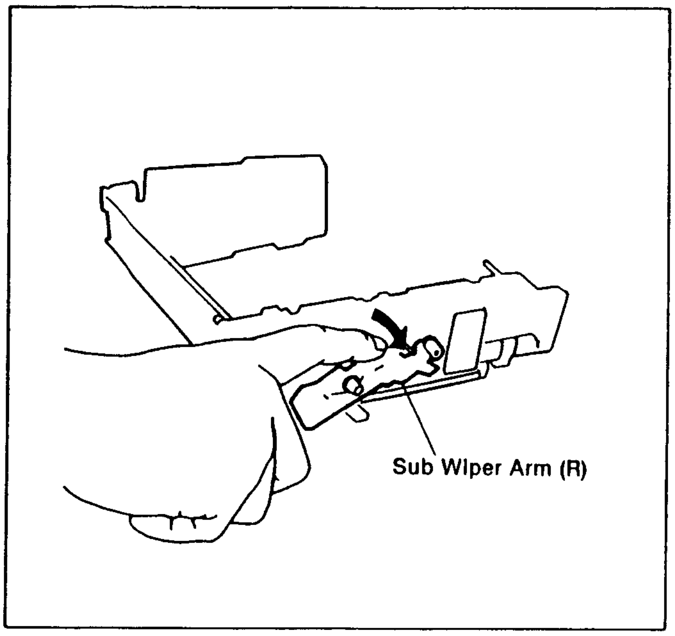

Sub Wiper Arm (R)

Figure M55

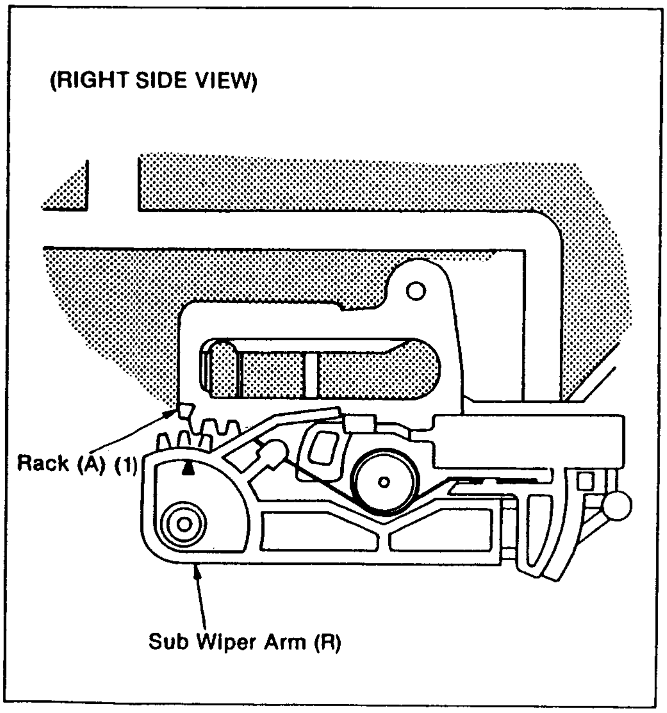

(RIGHT SIDE VIEW)
Rack (A) (1)
Sub Wiper Arm (R)

Figure M56

6. If the Cassette Compartment is not aligned, re–alignment may be accomplished by pushing the Main Shaft Unit to the right (gently) and pushing the front of the Rack Unit to the left. This procedure will disengage the theeth of the Rack Gear from the theeth on Sub Wiper Arm assembly. This will allow you to change the positional relationship between the Sub Wiper Arm Assembly and Rack Unit. This procedure is best attempted in the EJECT position. Once this is done, check for smooth operation of the compartment by inserting a cassette, and pushing in, and down.

C. Installation Procedure

1. Bring loading mechanism to the STOP (Sub Load) position.
2. Comfirm that the chassis is aligned properly for STOP position as shown in Figure M39 and M38.
3. Put the Sub Wiper Arm (R) 'in it's full down position (Sub Wiper Arm should rest on plastic protrusion on the bottom of the right side plat).
4. Install the cassette compartment (without cassette holder) to chassis so that the rectangular marking (or slot) on the connection gear should be line up with first tooth of the Rack Gear as shown in Figure M57 and M58.

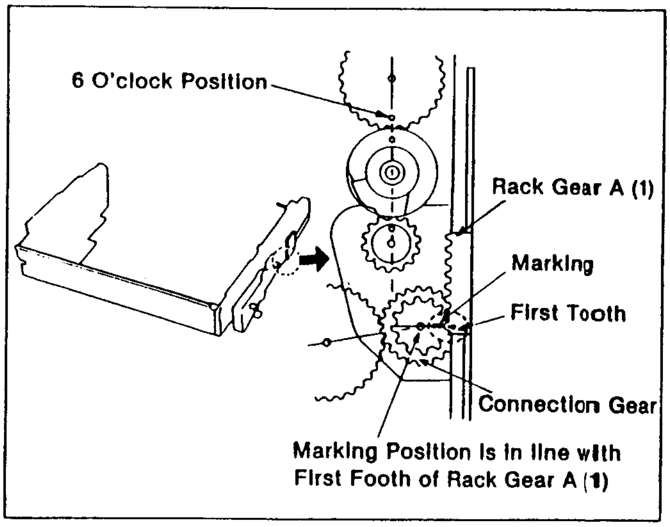

6 O'clock Position
Rack Gear A (1)
Marking
First Tooth
Connection Gear
Marking Position Is In line with First Footh of Rack Gear A (1)

Figure M57

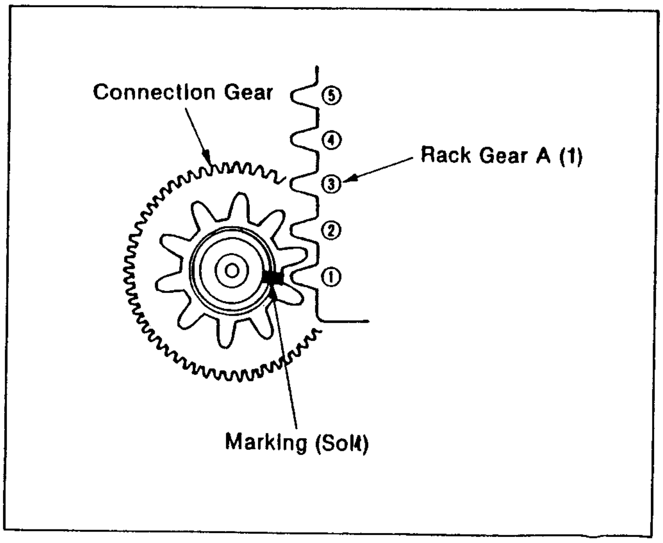

Connection Gear
⑤
④
Rack Gear A (1)
③
②
①
Marking (Soli)

Figure M58

5. Tighten the 4 screws (D) as shown in Figure M59.

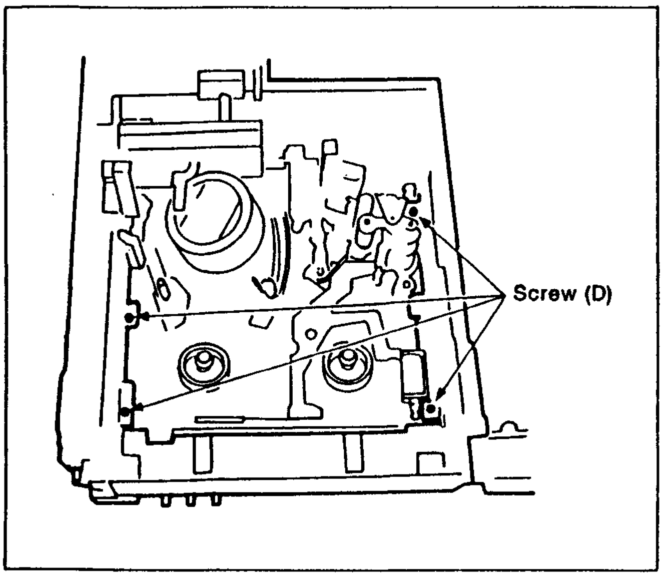
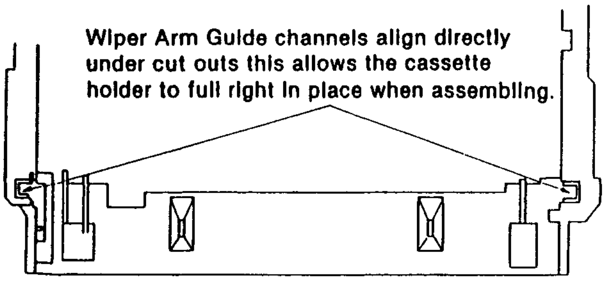


Figure M59

6. Press the Change Lever and manualy move the loading mechanism toward the EJECT position (Figure M51).
7. Stop the manual eject procedure just before completion, so that the Sub Wiper Arms straight up. This position is also characterized by the channel guides (In the Wiper Arms) being directly under the cut outs on the top of the Cassette Compartment base(Figure M60).
8. Install the Cassette Holder Unit in the Cassette Compartment Base. The Cassette Holder should drop into place if the Sub Wiper Arms are portioned as called for in step 7.

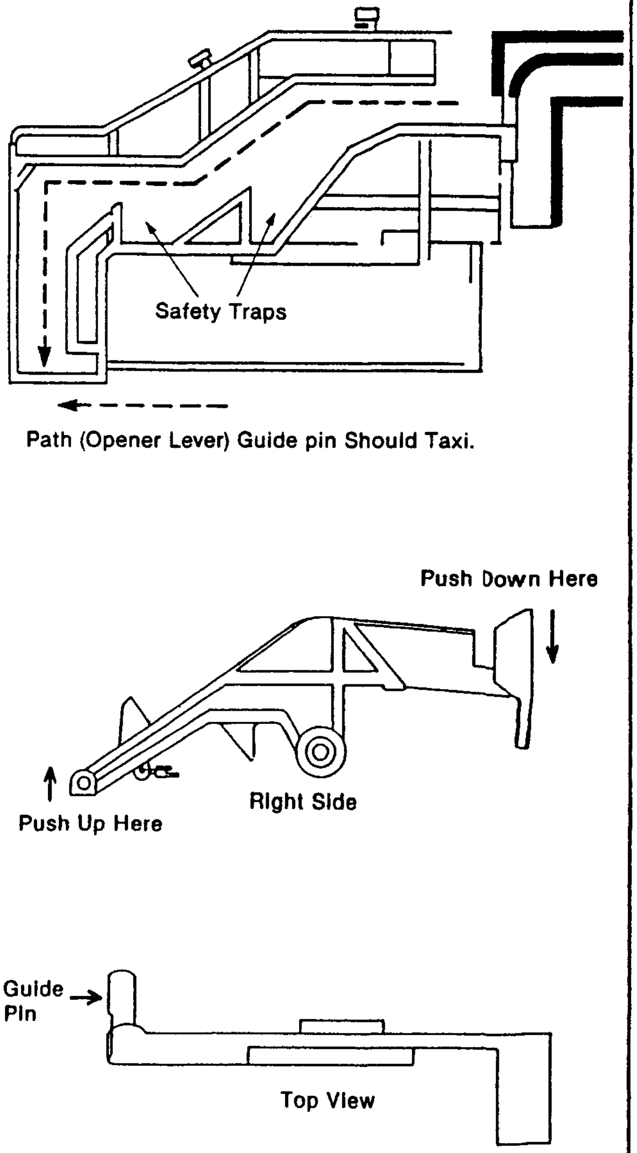
(TOP VIEW OF CASSETTE COMPARTMENT BASE)


Wiper Arm Guide channels align directly under cut outs this allows the cassette holder to full right in place when assembling.

*Please note this is not final eject position.

Figure M60

*Note: For proper front loading, the guide pin on the opener lever should follow the upper track of the right side panel as shown in Figure M61.


Safety Traps
Push Down Here
Push Up Here
Right Side
Guide Pin
Top View

Path (Opener Lever) Guide pin Should Taxi.

The Opener Lever is attached to the Cassette Holder.

Figure M61 Right Side Plate

9. Install the top plate on the Cassette Compartment Base and tighten the 2 screws (A) as shown in Figure M53.
10. Manually confirm that front loading and main loading run smoothly. Also confirm EJECT before power is applied.

4. ELECTRICAL ADJUSTMENT PROCEDURES

4-1. TEST EQUIPMENT

To perform the electrical adjustments completely, the following equipments are required.

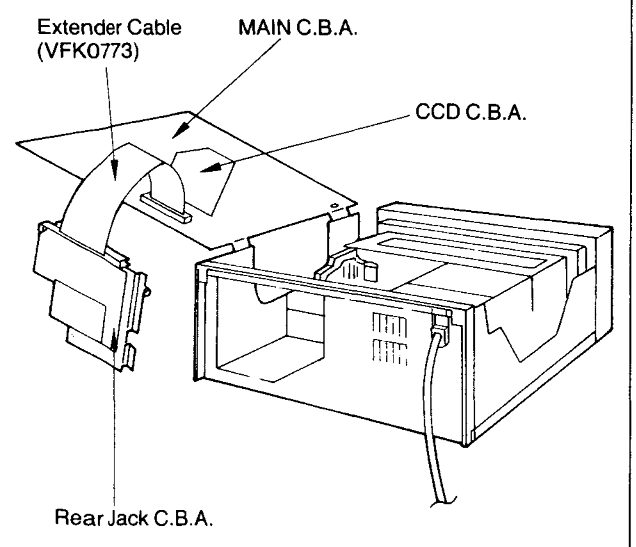
1. VTVM (Vacuum Tube Volt Meter) or DVM (Digital Volt Meter)
   Voltage range : 0.001 to 50V
2. Dual-Trace Oscilloscope
   Voltage Range : 0.005 to 50V/div
   Frequency Range : DC to 400MHz
   Probes : 10 : 1 and 1 : 1
3. Frequency Counter
   Frequency Range : 0 to 10MHz
4. Signal Generator (Sinewave)
   Frequency Range : 0 to 500KHz
5. Video Sweep Generator
   Frequency Range : 0 to 10MHz
6. Composite Signal Generator
   Output : Color Bar, Multi Burst, Sin 2T Pulse & Bar etc ...
7. Spectrum Analyzer
8. Color Monitor TV
9. VHS Alignment Tape (VFM8180HADA)
10. S-VHS Blank Tape
11. VHS Blank Tape

4-1-1. SERVICE INFORMATION

* How to use the extender cable (VFK0773)

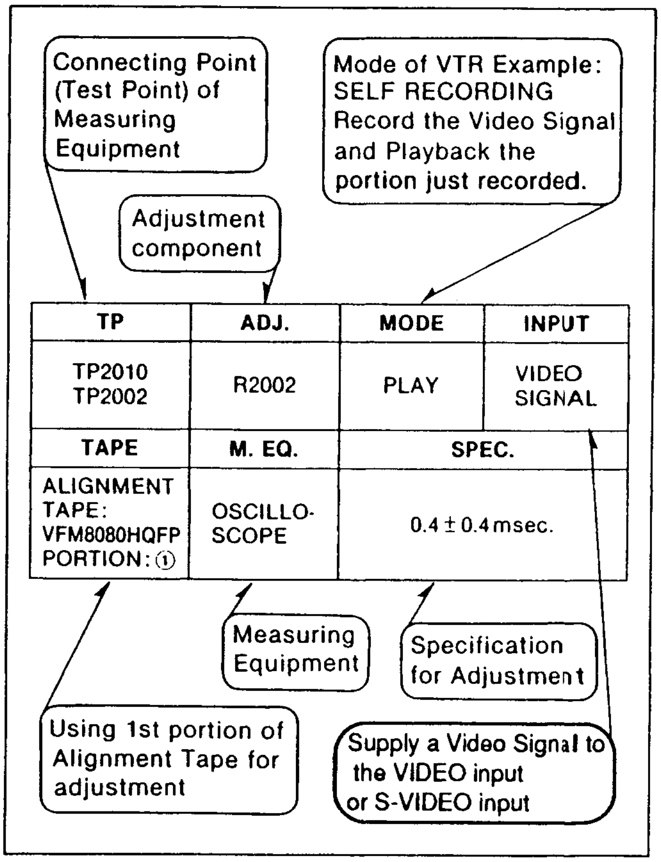
Main C.B.A. extender

The extender cable is used for Rear Jack C.B.A. as show below.


Extender Cable
(VFK0773)
MAIN C.B.A.
CCD C.B.A.
Rear Jack C.B.A.

4-2. ADJUSTMENT PROCEDURE

2-1. How to read the adjustment procedures


Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example: SELF RECORDING Record the Video Signal and Playback the portion just recorded.
Adjustment component
Measuring Equipment
Specification for Adjustment
Using 1st portion of Alignment Tape for adjustment
Supply a Video Signal to the VIDEO input or S-VIDEO input

TP	ADJ.	MODE	INPUT
TP2010 TP2002	R2002	PLAY	VIDEO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
ALIGNMENT TAPE: VFM8080HQFP PORTION: ①	OSCILLO-SCOPE	0.4 ± 0.4msec.	

Figure E1-1

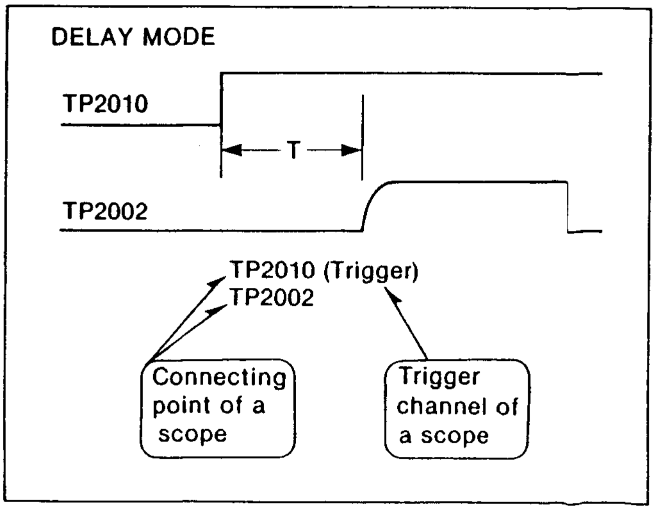

DELAY MODE
TP2010
T
TP2002
TP2010 (Trigger)
TP2002
Connecting point of a scope
Trigger channel of a scope

Figure E1-2

Unless otherwise specified, set the switches on the front panel and rear panel as the following condition.

ON THE FRONT PANEL

1. Memory / Search (S/OFF/M) .... OFF
2. Audio Select (L,R/L/R/) ...... L,R
   - * L, R (Hi-Fi Stereo)
   - * L (Hi-Fi L Mono)
   - * R (Hi-Fi R Mono)
   - * (Normal Mono)
3. Hi-Fi Level
   - * L / CH1 .... Center Detent Point
   - * R / CH2 .... Center Detent Point
4. Tracking .... Neutral Position (Press – and + Keys together)

ON THE Rear Panel

5. Auto Repeat (Tape End/Off/Video End) ... OFF
6. Sensor Rec (ON/OFF) .... OFF
7. S-VHS (ON/OFF) .... OFF
8. Video (S-VIDEO/LINE) .... LINE
9. Line out is should be terminated with 75 ohm.

INPUT SIGNAL

Audio .... 1KHz, -8dBV (400mVrms)
Video .... Composite Color Bar (1Vp-p)

SERVO SECTION

2-2. PB SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP6004 (H. SW) VIDEO OUT	VR6007	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8080HQFP PORTION: 2	OSCILLO-SCOPE	7.5 H±0.5 H	

Note: Tape interchangeability adjustment should be always completed before this adjustment.

1. Play back the alignment tape at the portion 2.
2. Connect the oscilloscope CH1 to the video output on TP3304 and CH2 to TP6004.
3. Adjust VR6007 so that the head switching point is 7.5H +/-0.5H as shown in Figure E2-1.

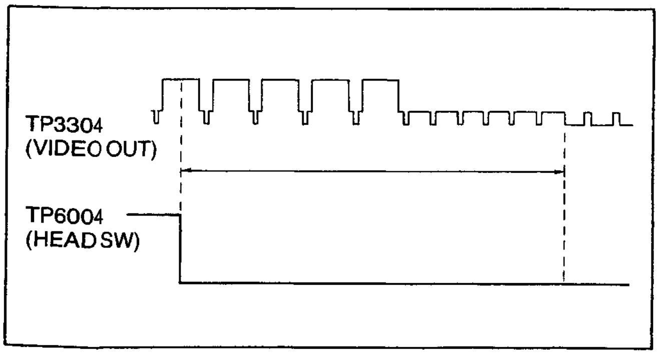


Figure E2-1

4. Confirm that the pulse width relation between A and B is as shown in Figure E2-2.

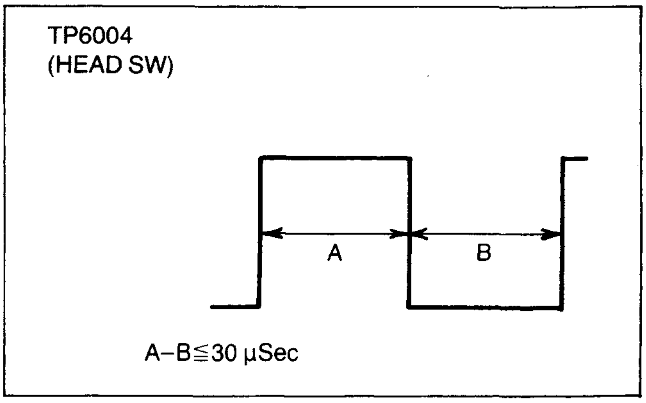


Figure E2-2

2-3. SLOW TRACKING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR TV	VR6004FWD VR6003REW	SLOW PLAY	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
SELF RECORDED TAPE	MONITOR TV	NO VOISE BAND ON THE MONITOR SCREEN	

1. Set the VHS/S-VHS select switch on the rear panel to the S-VHS position.
2. Press the tracking control (+) and (–) buttons together so that the tracking position will be fixed position.
3. Record a colour bar signal.
4. Play back the recorded portion just recorded in the forward slow mode.
5. Adjust VR6004 so that the noise band is not appeared on the lower and upper portion of the monitor screen.
6. Change mode from the forward slow to the reverse slow.
7. Adjust VR6003 so that the noise band is not appeared on the lower and upper portion of the monitor screen.

Note: Personal computer through RS-232C is needed for the reverse playback mode.

2-4. V DANCING ADJUSTMENT

TP	ADJ.	MODE	INPUT
MONITOR TV	VR6001	STILL	COLOR BAR
TAPE	**M. EQ.**	**SPEC**	
SELF RECORDED TAPE	MONITOR TV	NO V DANCING ON THE MONITOR SCREEN	

1. Record a colour bar signal.
2. Playback the recorded portion just recorded in the play pause mode and adjust VR6001 so that the V dancing is not appeared on the monitor screen.

VIDEO SECTION

2–5. AUTO TRACKING GAIN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3302	VR3305	STOP	4 kHz 200 mVp-p (SINE WAVE)
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	2.5 V±0.1 V	

1. Set the VHS/S–VHS select switch on the rear panel to the S–VHS position.
2. Supply a signal (4MHz, 200mVp–p sine wave) to the TP3301.
3. Connect the oscilloscope to TP3302.
4. Adjust VR3305 so that the Auto Tracking level is 2.5 +/– 0.1V.

2–6. AGC LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUTPUT	VR3301	STOP	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK TAPE	OSCILLO-SCOPE	Y LEVEL=1.0 Vp-p±0.02 V	

1. Supply a colour bar signal to the video input on the rear panel.
2. Connect the oscilloscope to the video output with a 75ohm termination.
3. Adjust VR3301 so that the video level is 1.0Vp–p +/– 0.02V as shown in Figure E6.

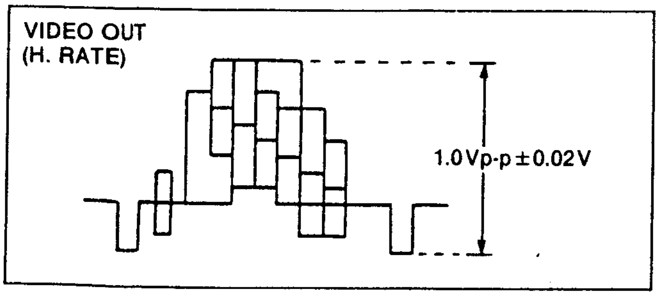


Figure E6

2–7. VHS DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3005	VR3008	VHS RECORDING	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK TAPE	OSCILLO-SCOPE	INNER BEAT IS MINIMUM	

1. Supply a colour bar signal to the video input on the rear panel.
2. Set the signal generator output (sinewave) as follows.
   Frequency : 4.8MHz +/– 0.05MHz
   Output Level : 50mVp–p ~ 100mVp–p
3. Supply the above signal to TP3005 and connect the oscilloscope to TP3005.
4. Place the unit in the VHS recording mode.
5. Adjust VR3008 so that the inner beat at the white portion of the colour bar is minimum as shown in Figure E7.

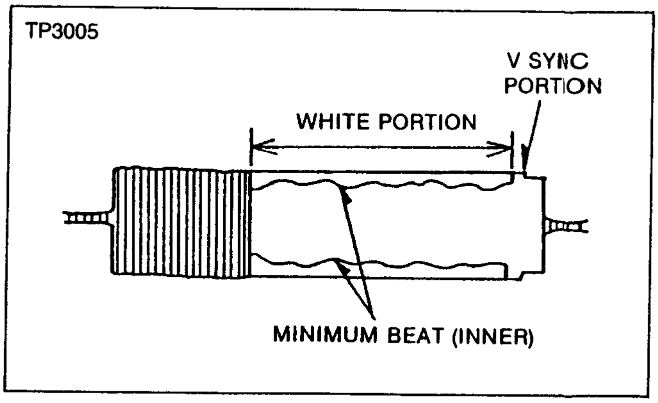


Figure E7

2–8. S–VHS DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3005	VR3002	S-VHS RECORDING	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	INNER BEAT IS MINIMUM	

Note: This adjustment should be perform after completion of the VHS Deviation Adjustment.

1. Supply a Color bar signal to the video input on the rear panel.
2. Set the signal generator output (sinewave) as follows.
   Frequency : 7.0MHz +/– 0.05MHz
   Output Level : 50mVp–p ~ 100mVp–p
3. Supply the above signal to TP3005 and connect the oscilloscope to TP3005.

4. Place the unit in the S-VHS recording mode.
5. Adjust VR3002 so that the inner beat at the white portion of the colour bar signal is minimum as shown in Figure E8.

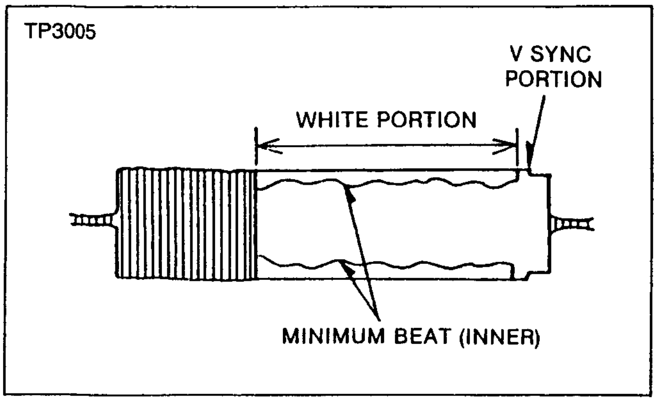

TP3005
V SYNC PORTION
WHITE PORTION
MINIMUM BEAT (INNER)

Figure E8

2-9. S-VHS RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507 (HOT) TP508 (GND)	VR502 (C) VR501 (Y)	RECORDING	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	OSCILLO-SCOPE	32 mVp-p±2 mV (C) 150 mVp-p±10 mV (Y)	

1. Set the VHS/S-VHS select switch on the rear panel to the S-VHS position.
2. Supply a colour bar signal to the video input on the rear panel.
3. Connect the oscilloscope to TP507 (HOT) and TP508 (GND) through 100uF capacitor as shown in Figure E9-1.

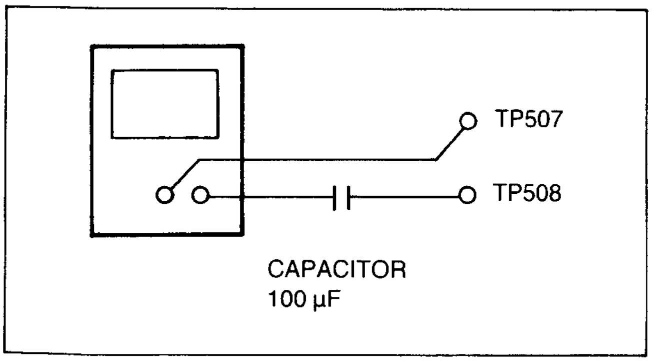

TP507
TP508
CAPACITOR
100 μF

Figure E9-1

4. Before, the C recording current adjustment, Y recording current (VR501) should be closed to observe the C recording current.
5. Adjust VR502 so that the cyan level is 32mVp-p +/- 2mV as shown in Figure E9-2.

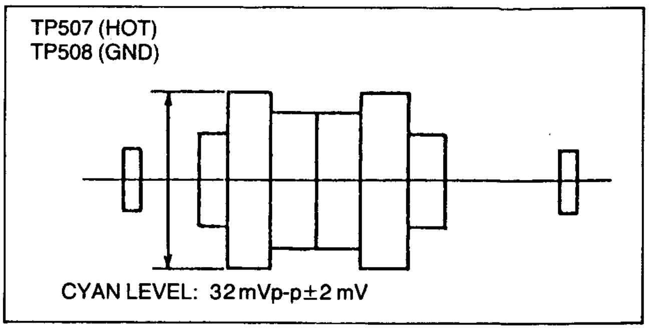

TP507 (HOT)
TP508 (GND)
CYAN LEVEL: 32mVp-p±2 mV

Figure E9-2

6. Adjust VR501 so that the level at the sync portion is 150mVp-p +/- 10mV as shown in Figure E9-3.

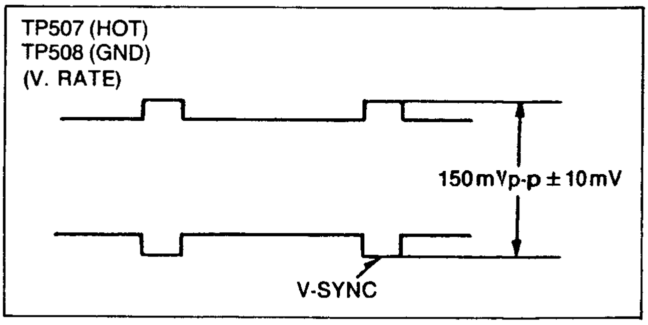

TP507 (HOT)
TP508 (GND)
(V. RATE)
150mVp-p±10mV
V-SYNC

Figure E9-3

2-10. VHS RECORDING CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP507 (HOT) TP508 (GND)	VR3302	RECORDING	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK TAPE	OSCILLO-SCOPE	140 mVp-p±10 mV	

Note: This adjustment should be always completed after the S-VHS recording current adjustment.

1. Set the VHS/S-VHS select switch on the rear panel to the VHS position.
2. Supply a colour bar signal to the video input on the rear panel.
3. Connect the oscilloscope to TP507 (Hot) and TP508 (GND) through 100uF capacitor as shown in Figure E9-1.
4. Adjust VR3302 so that the level at the sync portion is 140mVp-p +/- 10mV as shown in Figure E10.

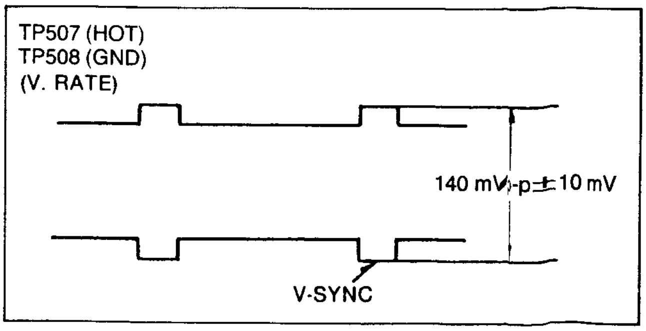

TP507 (HOT)
TP508 (GND)
(V. RATE)
140 mVp-p±10 mV
V-SYNC

Figure E10

2–11. YNR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3006	VR3007	STOP	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK TAPE	OSCILLO-SCOPE	LESS THAN 50 mVp-p	

1. Supply a colour bar signal to the video input on the rear panel.
2. Connect the oscilloscope to TP3006.
3. Adjust VR3007 so that the carrier leakage at the white portion is minimum (less than 50mVp–p) as shown in Figure E11.

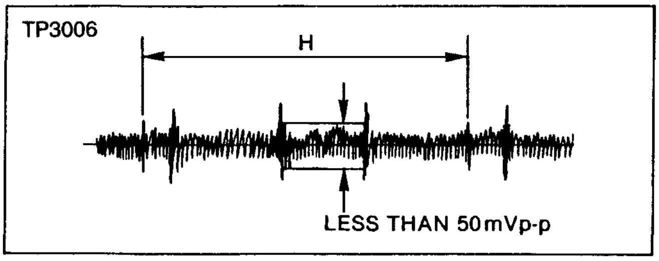


Figure E11

2–12. VHS Y PLAYBACK LEVEL ADJUSTMENT (1)

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3011	SELF RECORDING	COLOR BAR (Without chroma signal and burst)
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK TAPE	OSCILLO-SCOPE	1.0 Vp-p±0.02 V	

1. Supply a colour bar signal (without chroma signal and burst) to the S–VHS video input and recording it in the VHS mode for a few minutes.
2. Connect the oscilloscope to VIDEO OUTPUT with 75ohm termination.
3. Play back the just recorded portion.
4. Adjust VR3011 so that the Y level is 1.0Vp–p +/– 0.02V as shown in Figure E12.

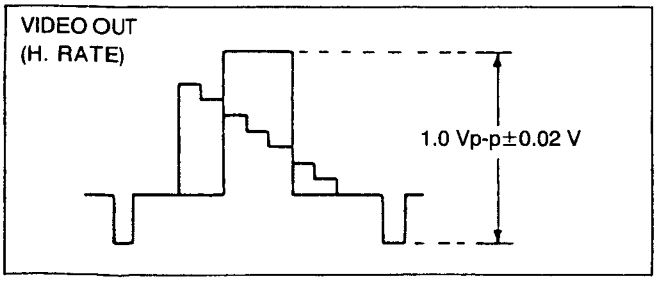


Figure E12

2–13. VHS Y PLAYBACK LEVEL ADJUSTMENT (2)

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3003	VHS PLAY	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
VHS SELF RECORDED TAPE	OSCILLO-SCOPE	1.0 Vp-p±0.02 V	

Note: This adjustment should be always completed after completion of VHS Y playback level adjustment (1).

1. Supply a colour bar signal to the video input and record it in the VHS mode for a few minutes.
2. Play back the just recorded portion.
3. Connect the Oscilloscope to the video output with a 75ohm termination.
4. Adjust VR3003 so that the Y level is 1.0Vp–p +/– 0.02V as shown in Figure E13.

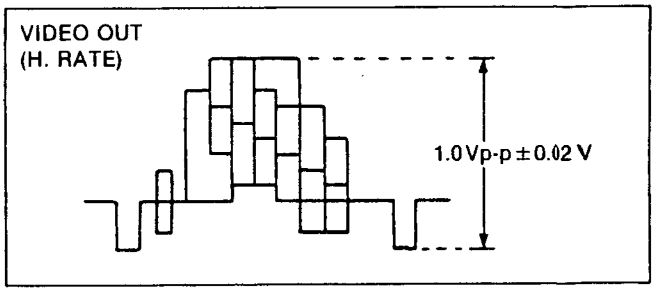


Figure E13

2–14. PLAYBACK SUB EMPHASIS INPUT LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3004	VR3009	S-VHS PLAY	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS SELF RECORDED TAPE	OSCILLO-SCOPE	400 mVp-p±10 mV	

Note: This adjustment should be always completed after completion of all adjustment on the recording loop.

1. Supply a colour bar signal to the video input and record it in the S–VHS mode for a few minutes.
2. Play back the just recorded portion.
3. Connect the oscilloscope to TP3004.
4. Adjust VR3009 so that the Y level is 400mVp–p +/– 10mV as shown in Figure E14

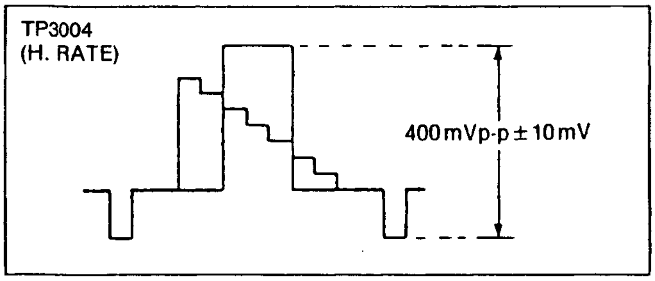


Figure E14

2–15. S–VHS PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3001	S-VHS PLAY	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS SELF RECORDED TAPE	OSCILLO-SCOPE	1.0 Vp-p±0.02 V	

Note: This adjustment should be always completed after the VHS Y playback level adjustment and playback sub emphasis input level adjustment.

1. Supply a colour bar signal to the video input and record it in the S–VHS mode for a few minutes.
2. Connect the oscilloscope to the video output with a 75ohm termination.
3. Adjust VR3001 so that the Y level is 1.0Vp–p +/– 0.02V as shown in Figure E15.

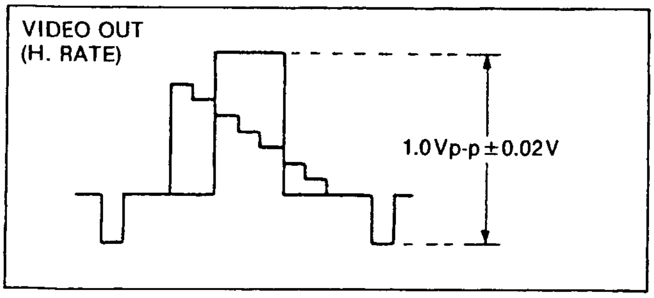


Figure 15

2–16. SUPER LIMITER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3305	VR3004	STOP	SINE WAVE (7 MHz, 200 mVp-p)
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK TAPE	SIGNAL GENERATOR OSCILLO-SCOPE	300 mVp-p±10 mV	

Note: Prepare an oscilloscope which can measure more than 100MHz.

1. Set the S–VHS select switch on the rear panel to the S–VHS position.
2. Set the signal generator (sine–wave) to 7MHz. 200mVp–p and supply it to TP3306.
3. Connect the 100MHz type oscilloscope to TP3305.
4. Adjust VR3304 so that the level is 300mVp–p +/– 10mV as shown in Figure E16.

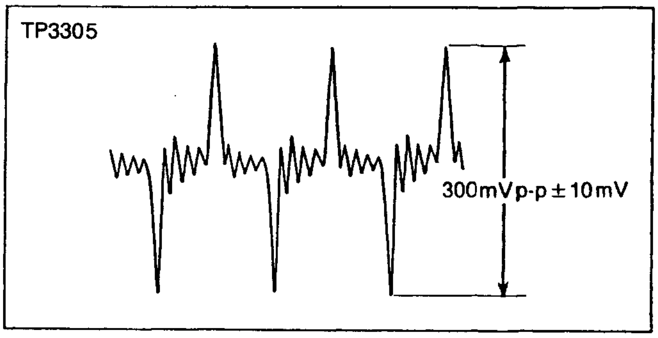


Figure E16

2–17. VHS PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3303	VHS PLAY	30% SWEEP WITH BURST
TAPE	**M. EQ.**	**SPEC.**	
VHS SELF RECORDED TAPE	OSCILLO-SCOPE	100 kHz:2 MHz= 5:5.0±0.5	

1. Set the video sweep generator output as shown in Figure E17–1.

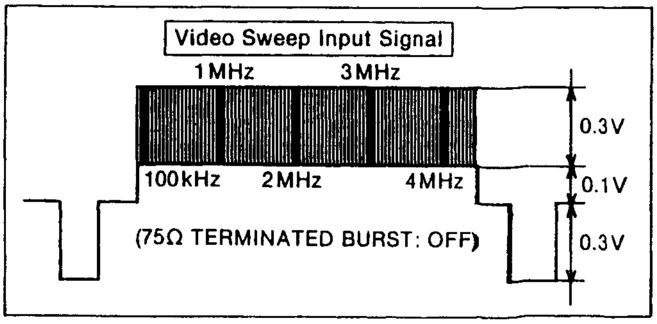


Figure E17–1

2. Supply the video sweep signal to the S–Video in put on the rear panel and record it in the VHS mode for a few minutes.
3. Playback the portion just recorded.
4. Connect the oscilloscope to the video output and observe the channel which has higher response at the 2MHz portion.
5. Adjust VR3303 so that the playback frequency response at the 100KHz and 2MHz is 5 (100KHz) : 5.0 +/– 0.5 (2MHz) as shown in Figure E17–2.

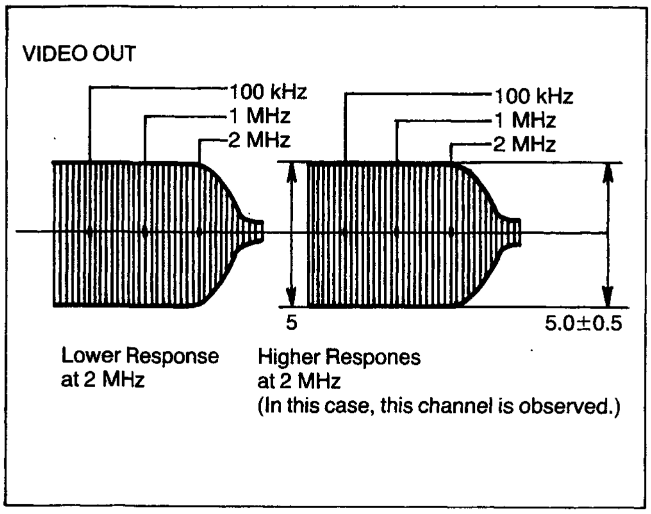

VIDEO OUT
100 kHz
1 MHz
2 MHz
100 kHz
1 MHz
2 MHz
5
5.0±0.5
Lower Response at 2 MHz
Higher Respones at 2 MHz
(In this case, this channel is observed.)

Figure E17–2

2–18. S– VHS PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3306	S-VHS PLAY	30% SWEEP WITHOUT BURST
TAPE	**M. EQ.**	**SPEC.**	
S-VHS SELF RECORDED TAPE	OSCILLO-SCOPE	100 kHz:4 MHz=5:3.0±0.5	

1. Set the video sweep signal generator as shown in Figure E17–1.
2. Supply the video sweep signal without burst signal to the S–Video input on the rear panel and record it in the S–VHS mode for a few minutes.
3. Playback the portion just recorded.
4. Connect the Oscilloscope to the video output.
5. Adjust VR3306 so that the playback frequency response at the 100KHz and 4MHz is 5 (100KHz) : 2.5 +/– 0.5 (4MHz) as shown in Figure E18

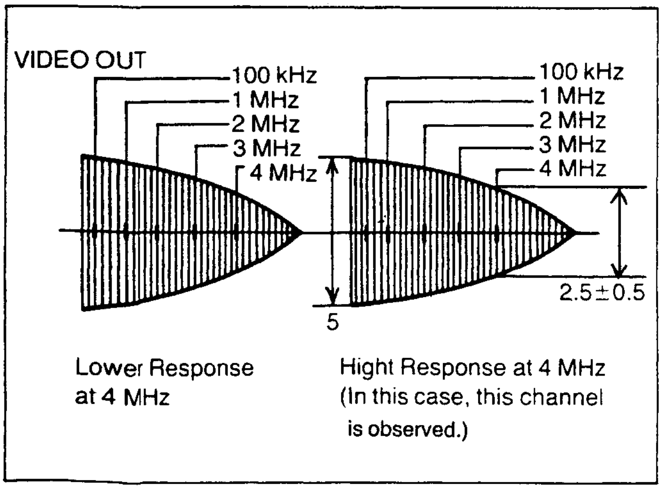

VIDEO OUT
100 kHz
1 MHz
2 MHz
3 MHz
4 MHz
100 kHz
1 MHz
2 MHz
3 MHz
4 MHz
2.5±0.5
5
Lower Response at 4 MHz
Hight Response at 4 MHz
(In this case, this channel is observed.)

Figure E18

2–19. C PLAYBACK LEVEL ADJUSTMENT (1)

TP	ADJ.	MODE	INPUT
TP3801	VR3801	S-VHS PLAY	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS SELF RECORDED TAPE	OSCILLO-SCOPE	500 mVp-p±10 mV	

Note: Set the VHS–S–VHS select switch on the rear panel to the S–VHS position.

1. Supply a colour bar signal to the video input on the rear panel and record it in S VHS mode for a few minutes.
2. Play back the portion just recorded.
3. Connect the oscilloscope to the TP3801.
4. Adjust VR3801 so that the cyan level is 500mVp–p +/– 10mV as shown in Figure E19.

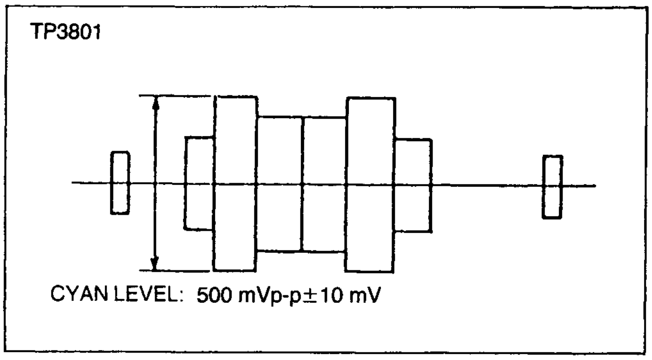

TP3801
CYAN LEVEL: 500 mVp-p±10 mV

Figure E19

2–20. CNR Adjustment

TP	ADJ.	MODE	INPUT
TP3002	VR3005 VR3006	S-VHS PLAY	COLOR BAR
TAPE	**M. EQ.**	**SPEC.**	
S-VHS SELF RECORDED TAPE	OSCILLO-SCOPE	LESS THAN 500 mVp-p	

Note: The YNR balance adjustment should be completed before this adjustment.

1. Supply a colour bar signal to the video input on the rear panel and record it in S–VHS mode for a few minutes.
2. Playback the portion just recorded.
3. Connect the oscilloscope to TP3002 and adjust VR3005 and VR3006 mutually so that the level of the chrome signal is minimum (less than 500mVp–p) as shown in Figure E20.

2-23. 2H DELAY LEVEL ADJUSTMENT (Y)

TP	ADJ.	MODE	INPUT
VIDEO OUTPUT	VR3004	S-VHS STILL	50% FLAT FIELD
TAPE	**M. EQ.**	**SPEC.**	
S-VHS SELF RECORDED TAPE	OSCILLO-SCOPE	V1=V2±20 mV	

1. Record a 50% flat field without burst to the video input on the rear panel and record it in the S-VHS mode for a few minutes.
2. Play back the portion just recorded in the still mode.
3. Connect the oscilloscope to the video output on the rear panel.
4. Adjust VR3004 so that the Y level difference between the white level and pedestal is 0 +/- 20mV as shown in Figure E25.

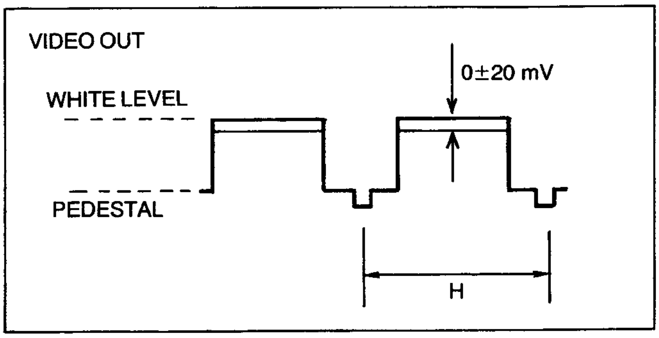


Figure E23

2-24. SECAM KILLER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3805	T3801	RECORDING	SECAM COLOUR BAR
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAP	OSCILLO-SCOPE	MAXIMIZE	

1. Supply a colour bar signal bar signal (SECAM) to the video input on the rear panel.
2. Connect the oscilloscope to the TP3805.
3. Adjust T3801 so that the SECAM KILLER level is maximize as shown in Figure E24.

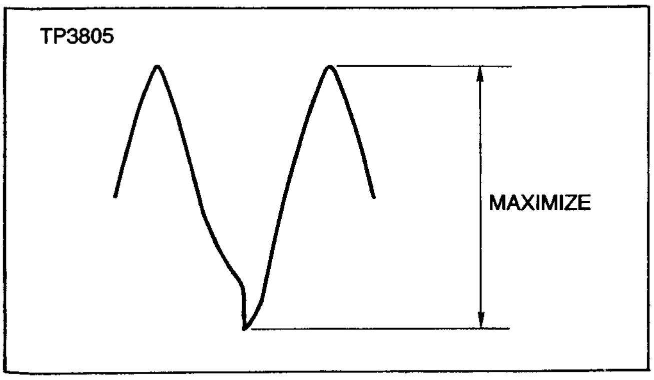


Figure E24

AUDIO SECTION

2-25. AUDIO E-E LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO CH1 OUTPUT CH2 OUTPUT	VR4502 (CH2) VR4503 (CH1)	STOP	1 kHz, −8 dBV SINE WAVE
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	V.T.V.M.	CH1/CH2=−8 dBV±0.2 dBV	

1. Set the signal generator output to 1KHz, −8dBV sinewave and supply it to the CH1 and CH2 audio inputs on the rear panel.
2. Press the audio select switch on the front panel so that the L, R mode (Hi−Fi stereo) can be selected.
3. Connect the V.T.V.M. to the audio CH1 and CH2 outputs on the rear panel.
4. Set the audio input control VR's on the front panel to the center fixed position.
5. Adjust VR4502 (CH2) and VR4503 (CH1) so that the audio output levels CH1 and CH2 are −8dBV +/− 0.2dBV.
6. Press the audio select switch three times so that the normal audio can be selected.
7. And then confirm that the normal audio output levels at the CH1 and CH2 are −8dBV +/− 2dBV.

2-26. AUDIO LEVEL METER ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO LEVEL METER	VR4041 (CH1) VR4042 (CH2)	STOP	1 kHz, −8 dBV SINE WAVE
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	AUDIO LEVEL METER	CH1:CH2=0 dB:0 dB±1 scale	

1. Set the signal generator output to 1KHz, −8dBV sinewave and supply it to the audio CH1 and CH2 inputs on the rear panel.
2. Press the audio select switch on the front panel so that the L, R mode (Hi−Fi stereo) can be selected.
3. Set the audio input control VR's on the front panel to the centre fixed position.
4. Adjust VR4041 (CH1) and VR4042 (CH2) so that the CH1 and CH2 level indicators on the LCD display show 0dB points.
5. Press the audio select switch on the front panel to the L/R, L, R and normal and confirm that the audio level meter CH1 and CH2 show 0dB, and CH1 and CH2 diffeence is within 1 scale (segment).

2–27. NORMAL AUDIO PLAYBACK GAIN ADJUSTMENT

TP	ADJ.	MODE	INPUT
CH2 AUDIO OUTPUT OR TP4002	VR4012	VHS PLAY	1 kHz, −8 dBV
TAPE	**M. EQ.**	**SPEC.**	
SELF RECORDED TAPE	V.T.V.M.	−8 dBV±0.2 dBV	

1. Set the sinewave signal generator output to −8dBV, 1KHz and supply it to the audio CH1 and CH2 input.
2. Record the above sinewave signal for a few minutes and play back the portion just recorded.
3. Press the audio select switch on the front panel so that the normal audio output can be selected.
4. Connect the V.T.V.M. to the audio CH2 output on the rear panel.
5. Adjust VR4012 so that the audio CH2 output is −8dBV +/− 0.2dBV.

2–28. NORMAL AUDIO BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4010 (+) TP4011 (−)	VR4033	VHS REC	
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	V.T.V.M.	3.1±0.05 mV rms	

Note: The cable between V.T.V.M. and Test Points should be shorter.

1. Make short circuits between the CH1, CH2 audio inputs and GND.
2. Connect the V.T.V.M. (+) to TP4010 and (−) to TP4011.
3. Adjust VR4033 so that the audio bias current is 3.1 +/− 0.05mVrms.

2–29. FM AUDIO DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
PIN25 (CH1) PIN24 (CH2) OF FM AUDIO C.B.A. (VEP04353A)	VR401 (CH2) VR407 (CH1)	STOP	1 kHz, −8 dBV
TAPE	**M. EQ.**	**SPEC.**	
BLANK TAPE	SPECTRUM ANALYZER	fw=100 kHz±5 kHz	

* Factory Adjustment

1. Set the signal generator output to 1KHz, −8dBV to the audio CH1 and CH2 inputs on the rear panel.
2. Connect the spectrum analyzer to pin 25 of the FM audio Pack C.B.A. (VEP04353A) and set its center frequency to 1.4MHz for the fw CH1.
3. Adjust VR407 so that the width of FW portion is 100KHz +/− 5KHz as shown in Figure E26.
4. Change the probe of the spectrum analyzer to Pin 24 from Pin 25 of the FM audio Pack C.B.A. (VEP04353A) and set its centre frequency to 1.8MHz for the CH2.
5. Adjust VR401 so that the width of fw portion is 100KHz +/− 5KHz as shown in Figure E29.

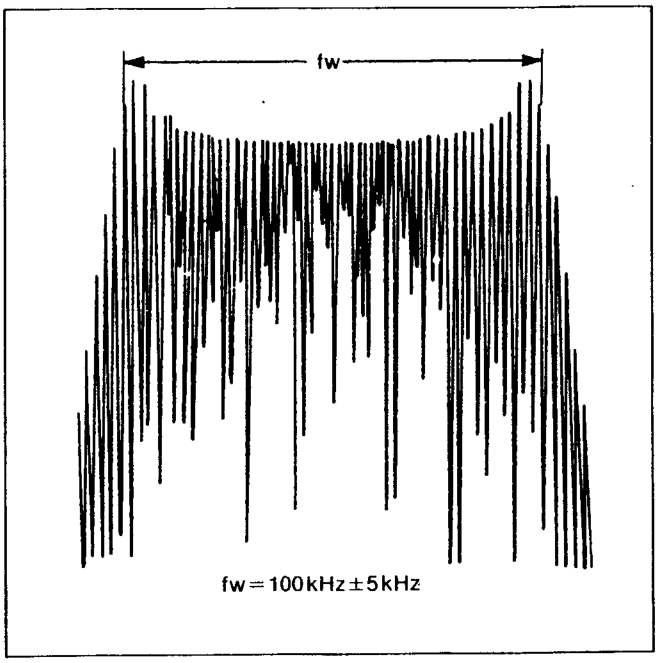
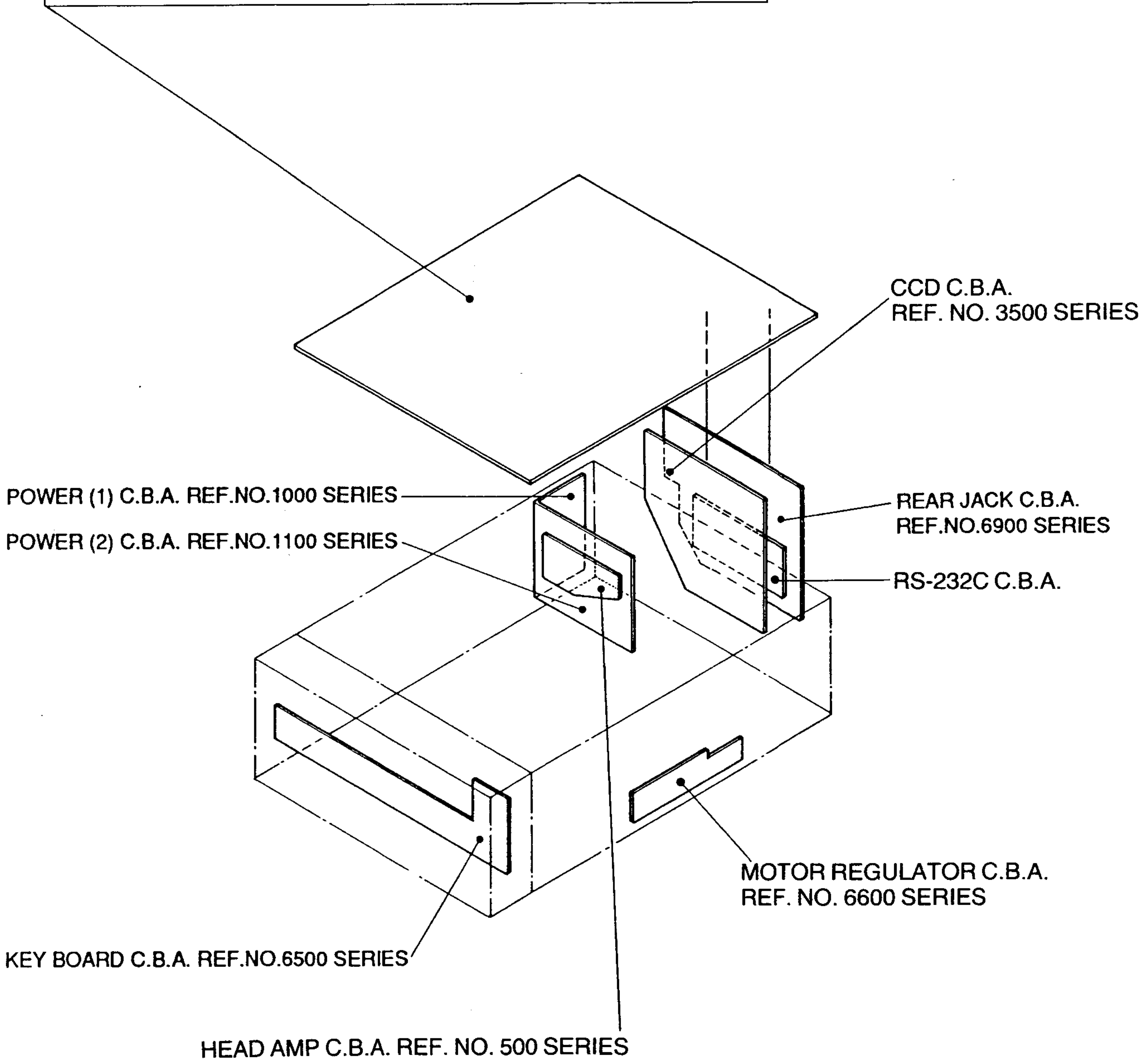


Figure E29

4-3. CIRCUIT BOARD LAYOUT

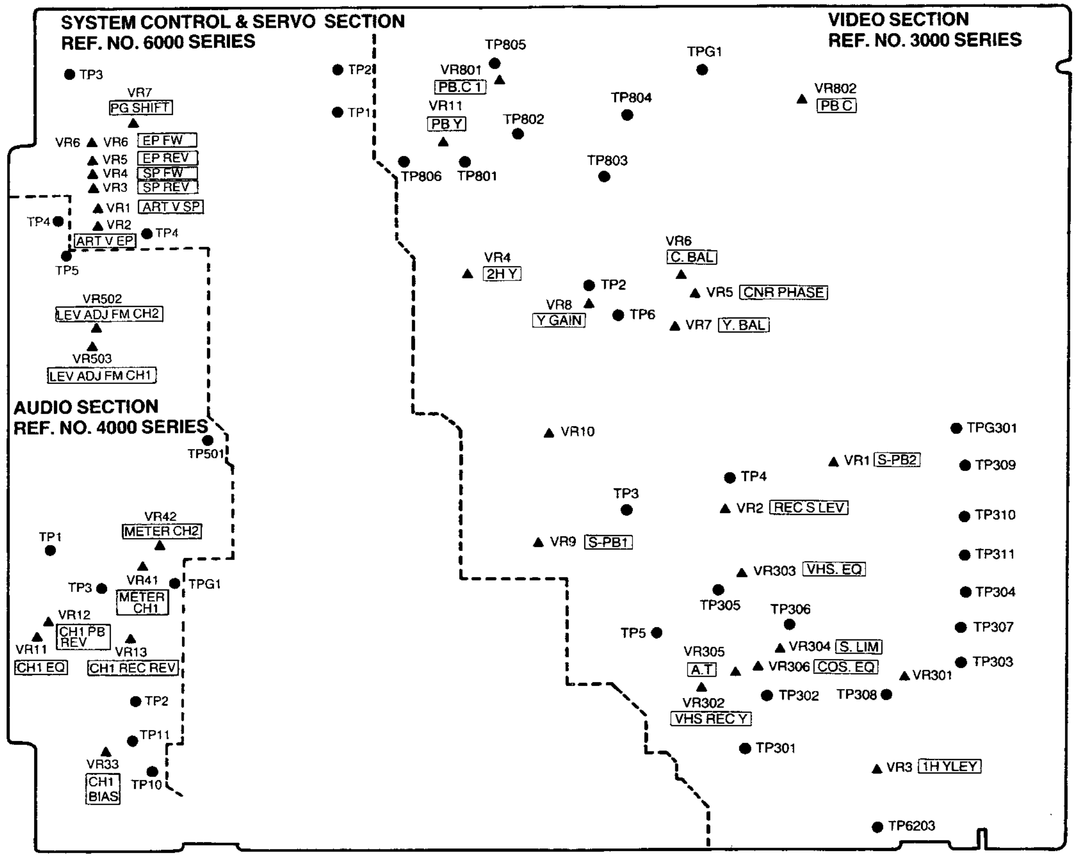
MAIN C.B.A.

AUDIO SECTION	REF. NO. 4000 SERIES
FM AUDIO SECTION	REF. NO. 400 SERIES
VIDEO Y SECTION	REF. NO. 3000 SERIES
VIDEO C SECTION	REF. NO. 3800 SERIES
VIDEO I/O SECTION	REF. NO. 3300 SERIES
SYSTEM CONTROL & SERVO SECTION	REF. NO. 6000 SERIES
DRIVE & INTERFACE SECTION	REF. NO. 6200 SERIES

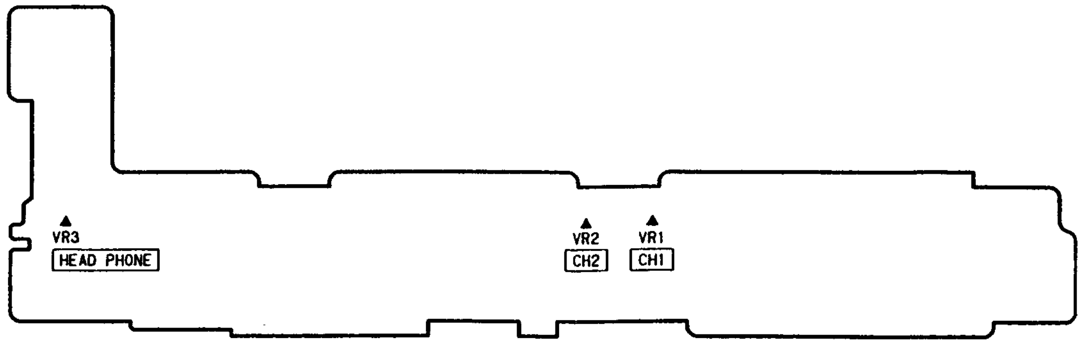

CCD C.B.A.
REF. NO. 3500 SERIES
POWER (1) C.B.A. REF.NO.1000 SERIES
POWER (2) C.B.A. REF.NO.1100 SERIES
REAR JACK C.B.A.
REF.NO.6900 SERIES
RS-232C C.B.A.
MOTOR REGULATOR C.B.A.
REF. NO. 6600 SERIES
KEY BOARD C.B.A. REF.NO.6500 SERIES
HEAD AMP C.B.A. REF. NO. 500 SERIES

4-4. LOCATION OF TEST POINT AND CONTROLS

MAIN C.B.A. (VEP03937A)


SYSTEM CONTROL & SERVO SECTION
REF. NO. 6000 SERIES
TP3
VR7
PG SHIFT
VR6
VR6 EP FW
VR5 EP REV
VR4 SP FW
VR3 SP REV
VR1 ART V SP
TP4
VR2
ART V EP
TP4
TP5
VR502
LEV ADJ FM CH2
VR503
LEV ADJ FM CH1
TP2
TP1
TP805
VR801
PB.C 1
VR11
PB Y
TP802
TP806
TP801
TPG1
TP804
TP803
VIDEO SECTION
REF. NO. 3000 SERIES
VR802
PB C
VR4
2H Y
TP2
VR8
Y GAIN
TP6
VR6
C. BAL
VR5 CNR PHASE
VR7 Y. BAL
AUDIO SECTION
REF. NO. 4000 SERIES
TP501
VR42
METER CH2
TP1
VR41
TP3
METER CH1
TPG1
VR12
CH1 PB REV
VR11
VR13
CH1 EQ
CH1 REC REV
TP2
TP11
VR33
CH1 BIAS
TP10
VR10
TPG301
VR1 S-PB2
TP309
TP4
TP3
VR2 REC S LEV
TP310
VR9 S-PB1
TP311
VR303 VHS. EQ
TP305
TP306
TP304
TP5
TP307
VR305
A.T
VR304 S. LIM
VR306 COS. EQ
VR301
TP303
VR302
VHS REC Y
TP302
TP308
TP301
VR3 1H YLEY
TP6203
(FOIL SIDE)

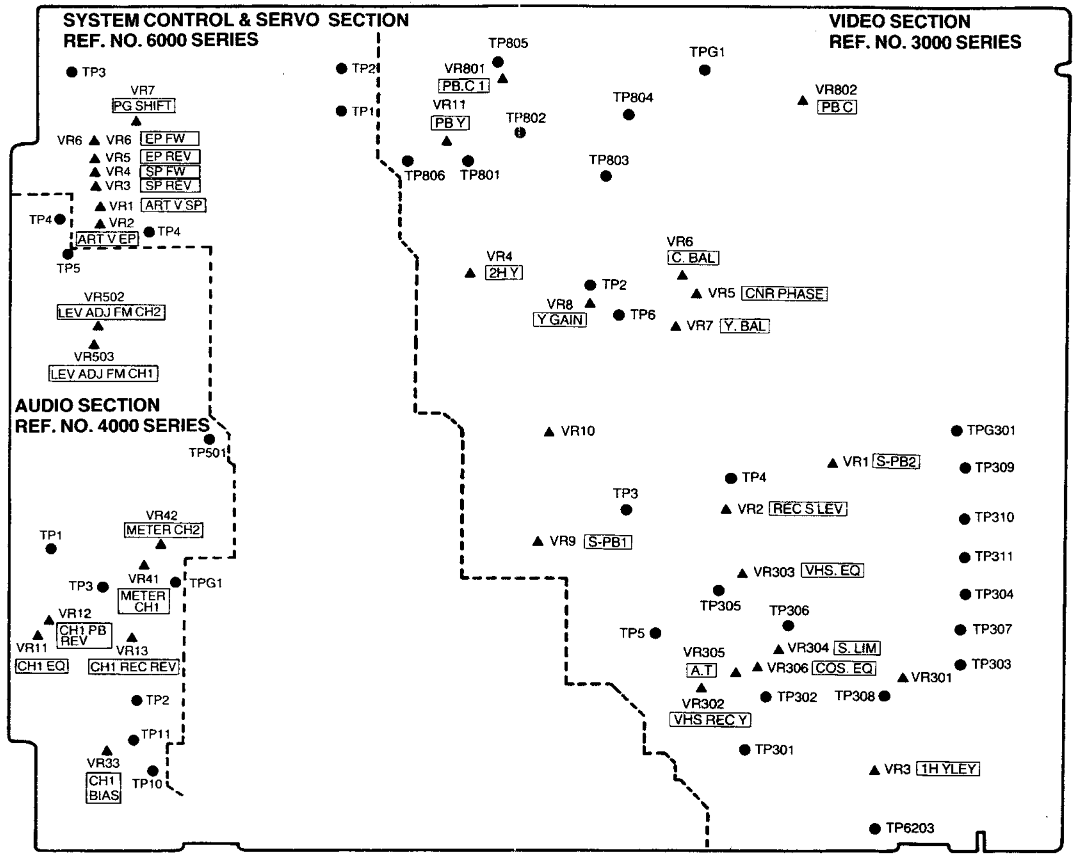
KEY BOARD C.B.A. (VEP06770A)


VR3
HEAD PHONE
VR2
CH2
VR1
CH1

REF.NO.6500 SERIES (FOIL SIDE)

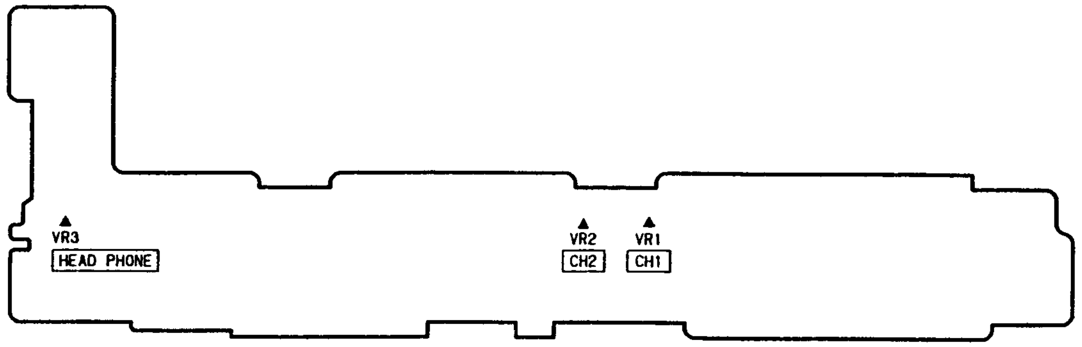
4-4. LOCATION OF TEST POINT AND CONTROLS

MAIN C.B.A. (VEP03937A)


SYSTEM CONTROL & SERVO SECTION
REF. NO. 6000 SERIES
VIDEO SECTION
REF. NO. 3000 SERIES
AUDIO SECTION
REF. NO. 4000 SERIES
TP3
VR7
PG SHIFT
VR6
VR6
EP FW
VR5
EP REV
VR4
SP FW
VR3
SP REV
VR1
ART V SP
TP4
VR2
ART V EP
TP4
TP5
VR502
LEV ADJ FM CH2
VR503
LEV ADJ FM CH1
TP501
TP1
VR42
METER CH2
TP3
VR41
METER CH1
TPG1
VR12
CH1 PB REV
VR11
CH1 EQ
VR13
CH1 REC REV
TP2
TP11
VR33
CH1 BIAS
TP10
TP2
TP1
TP805
VR801
PB.C 1
VR11
PB Y
TP802
TP806
TP801
TPG1
TP804
TP803
VR802
PB C
VR4
2H Y
VR6
C. BAL
TP2
VR5
CNR PHASE
VR8
Y GAIN
TP6
VR7
Y. BAL
VR10
TPG301
VR1
S-PB2
TP309
TP4
TP3
VR2
REC S LEV
TP310
VR9
S-PB1
TP311
VR303
VHS. EQ
TP304
TP305
TP306
TP5
TP307
VR305
A.T
VR304
S. LIM
VR306
COS. EQ
VR301
TP303
VR302
VHS REC Y
TP302
TP308
TP301
VR3
1H YLEY
TP6203

(FOIL SIDE)

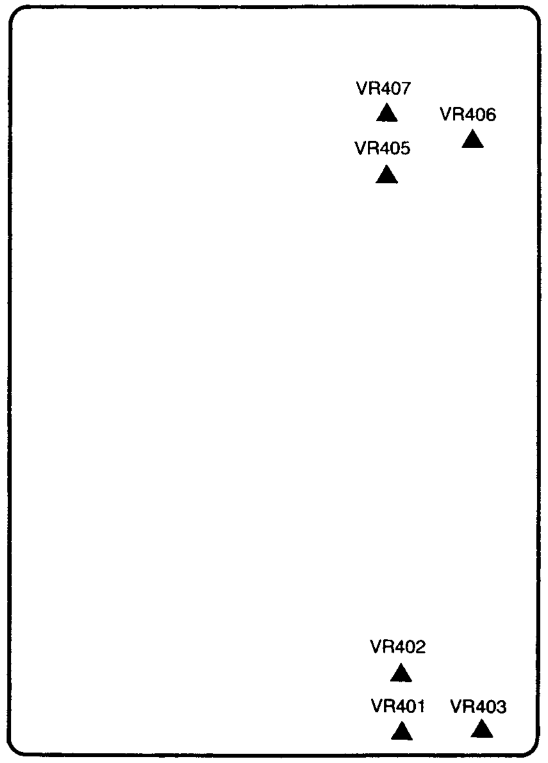
KEY BOARD C.B.A. (VEP06770A)


VR3
HEAD PHONE
VR2
CH2
VR1
CH1

REF.NO.6500 SERIES

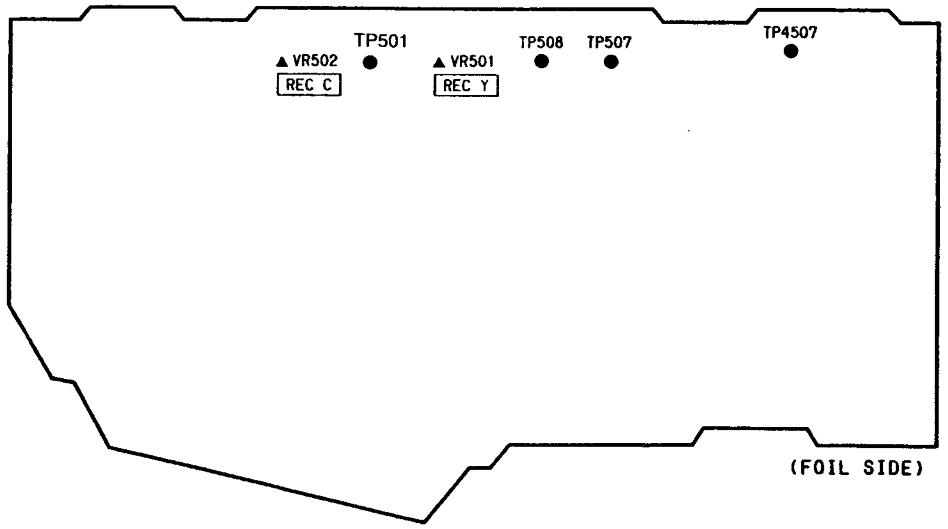
(FOIL SIDE)

FM AUDIO PACK C.B.A. (VEP04353A)


VR407
VR406
VR405
VR402
VR401
VR403

(FOIL SIDE)

HEAD AMP C.B.A. (VEP05152B)


TP501
VR502
REC C
VR501
REC Y
TP508
TP507
TP4507

(FOIL SIDE)

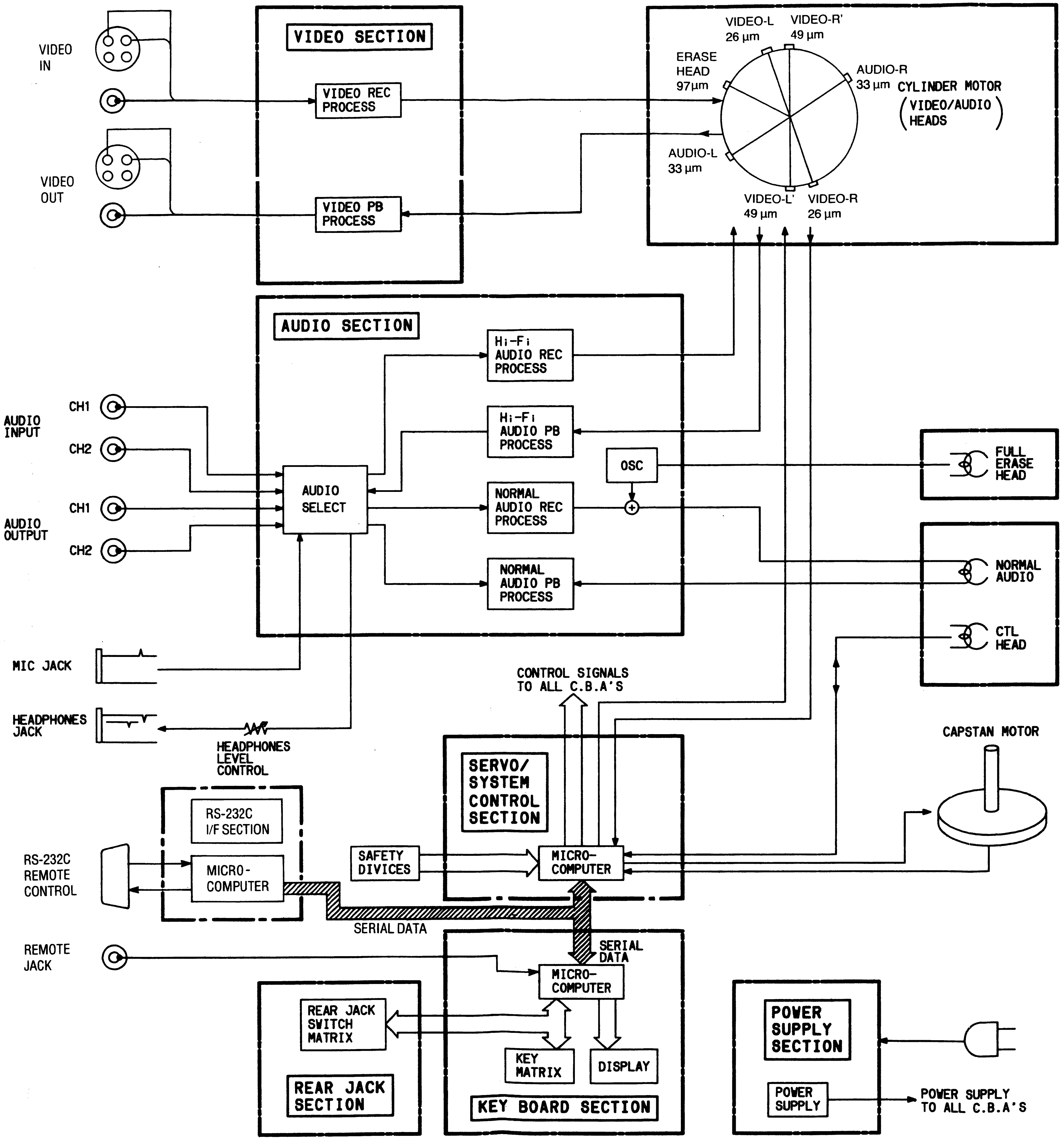
Section 3

BLOCK DIAGRAM

CONTENTS

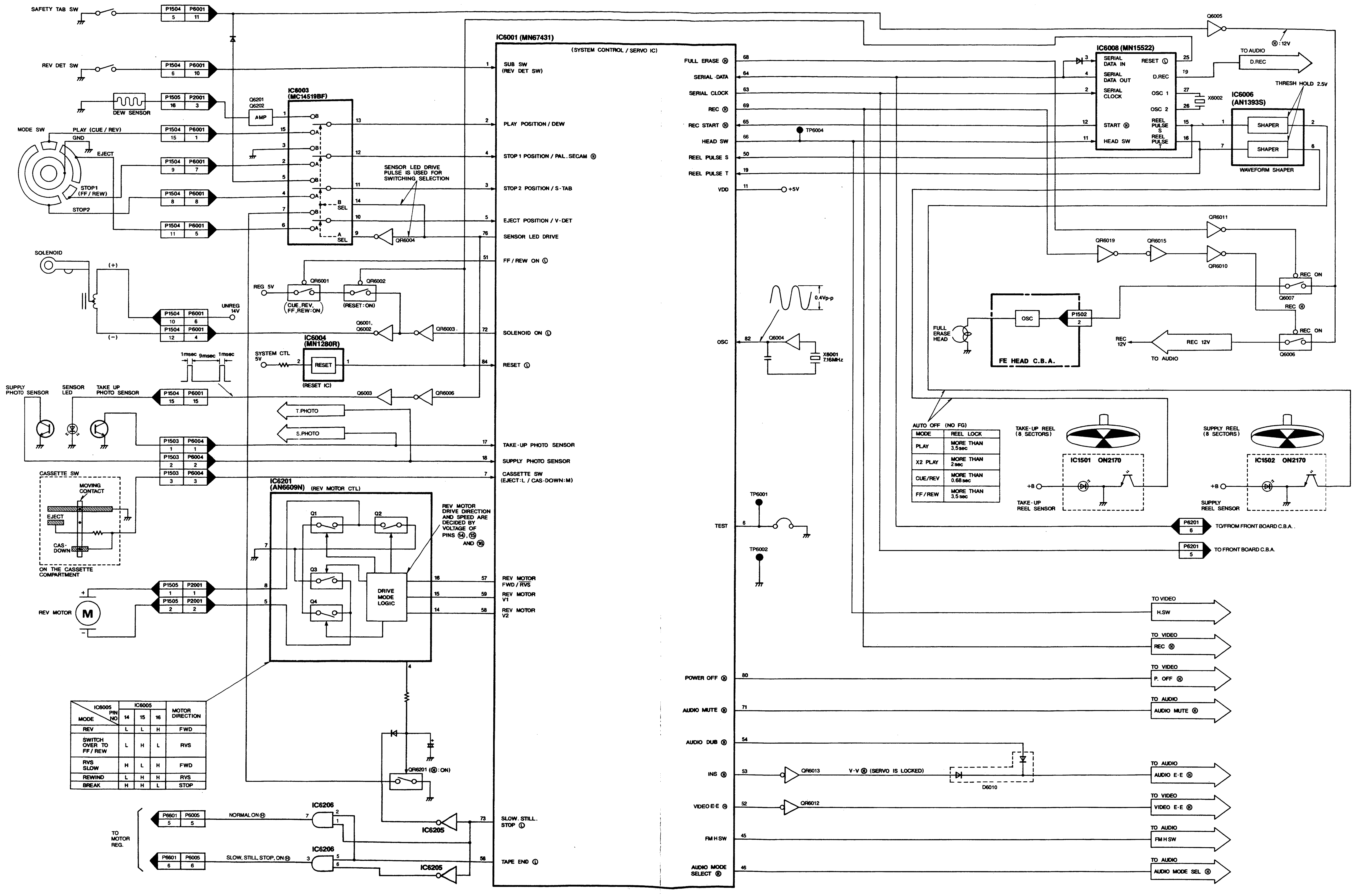
OVERALL BLOCK DIAGRAM BLK-3
SYSTEM CONTROL BLOCK DIAGRAM BLK-4
SERVO BLOCK DIAGRAM.. BLK-5
KEY BOARD BLOCK DIAGRAM BLK-6
VIDEO BLOCK DIAGRAM BLK-7
AUDIO BLOCK DIAGRAM BLK-8

OVERALL BLOCK DIAGRAM



VIDEO IN
VIDEO OUT
VIDEO SECTION
VIDEO REC PROCESS
VIDEO PB PROCESS
VIDEO-L 26 µm
VIDEO-R' 49 µm
ERASE HEAD 97µm
AUDIO-R 33 µm
CYLINDER MOTOR (VIDEO/AUDIO HEADS)
AUDIO-L 33 µm
VIDEO-L' 49 µm
VIDEO-R 26 µm
AUDIO SECTION
Hi-Fi AUDIO REC PROCESS
Hi-Fi AUDIO PB PROCESS
OSC
NORMAL AUDIO REC PROCESS
NORMAL AUDIO PB PROCESS
AUDIO SELECT
AUDIO INPUT
CH1
CH2
AUDIO OUTPUT
CH1
CH2
FULL ERASE HEAD
NORMAL AUDIO
CTL HEAD
MIC JACK
HEADPHONES JACK
HEADPHONES LEVEL CONTROL
CONTROL SIGNALS TO ALL C.B.A'S
CAPSTAN MOTOR
SERVO/ SYSTEM CONTROL SECTION
MICRO-COMPUTER
SAFETY DIVICES
RS-232C I/F SECTION
MICRO-COMPUTER
RS-232C REMOTE CONTROL
SERIAL DATA
SERIAL DATA
REMOTE JACK
MICRO-COMPUTER
REAR JACK SWITCH MATRIX
REAR JACK SECTION
KEY MATRIX
DISPLAY
KEY BOARD SECTION
POWER SUPPLY SECTION
POWER SUPPLY
POWER SUPPLY TO ALL C.B.A'S

SYSTEM CONTROL BLOCK DIAGRAM

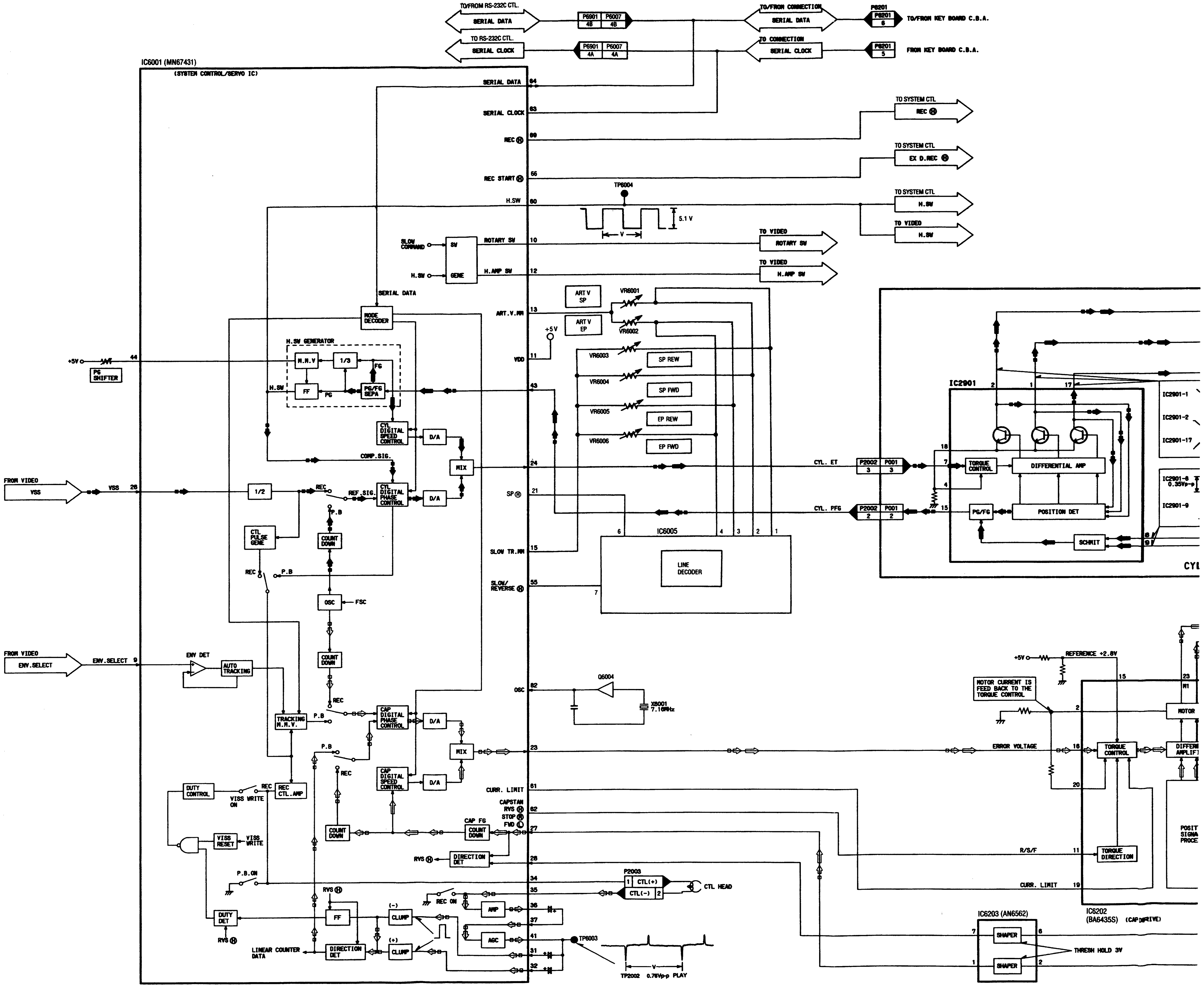

SAFETY TAB SW
REV DET SW
DEW SENSOR
MODE SW
PLAY (CUE / REV)
GND
EJECT
STOP1 (FF / REW)
STOP2
P1504 P6001
P1505 P2001
Q6201 Q6202
AMP
IC6003 (MC14519BF)
SENSOR LED DRIVE PULSE IS USED FOR SWITCHING SELECTION
B SEL
A SEL
QR6004
SOLENOID
UNREG 14V
REG 5V
QR6001
QR6002
CUE, REV, FF, REW : ON
(RESET : ON)
Q6001, Q6002
QR6003
IC6004 (MN1280R)
SYSTEM CTL 5V
RESET
(RESET IC)
1msec 9msec 1msec
SUPPLY PHOTO SENSOR
SENSOR LED
TAKE UP PHOTO SENSOR
Q6003
QR6006
T. PHOTO
S. PHOTO
P1503 P6004
CASSETTE SW
MOVING CONTACT
EJECT
CAS·DOWN
ON THE CASSETTE COMPARTMENT
IC6201 (AN6609N) (REV MOTOR CTL)
Q1 Q2 Q3 Q4
DRIVE MODE LOGIC
REV MOTOR DRIVE DIRECTION AND SPEED ARE DECIDED BY VOLTAGE OF PINS ⑭, ⑮ AND ⑯
REV MOTOR
QR6201 (Ⓗ : ON)
TO MOTOR REG.
P6601 P6005
NORMAL ON Ⓗ
SLOW, STILL, STOP, ON Ⓗ
IC6206
IC6205
IC6001 (MN67431)
(SYSTEM CONTROL / SERVO IC)
SUB SW (REV DET SW)
PLAY POSITION / DEW
STOP 1 POSITION / PAL. SECAM Ⓗ
STOP 2 POSITION / S·TAB
EJECT POSITION / V·DET
SENSOR LED DRIVE
FF / REW ON Ⓛ
SOLENOID ON Ⓛ
RESET Ⓛ
TAKE·UP PHOTO SENSOR
SUPPLY PHOTO SENSOR
CASSETTE SW (EJECT : L / CAS·DOWN : M)
REV MOTOR FWD / RVS
REV MOTOR V1
REV MOTOR V2
SLOW. STILL. STOP Ⓛ
TAPE END Ⓛ
FULL ERASE Ⓗ
SERIAL·DATA
SERIAL CLOCK
REC Ⓗ
REC START Ⓗ
HEAD SW
REEL PULSE S
REEL PULSE T
VDD
+5V
TP6004
OSC
Q6004
X6001 7.16MHz
0.4Vp-p
TEST
TP6001
TP6002
POWER OFF Ⓗ
AUDIO MUTE Ⓗ
AUDIO DUB Ⓗ
INS Ⓗ
VIDEO E·E Ⓗ
FM H SW
AUDIO MODE SELECT Ⓗ
QR6013
V·V Ⓗ (SERVO IS LOCKED)
D6010
QR6012
Q6005
Ⓗ : 12V
IC6008 (MN15522)
SERIAL DATA IN
SERIAL DATA OUT
SERIAL CLOCK
START Ⓗ
HEAD SW
RESET Ⓛ
D.REC
OSC 1
OSC 2
REEL PULSE S
REEL PULSE T
X6002
TO AUDIO
D.REC
THRESH HOLD 2.5V
IC6006 (AN1393S)
SHAPER
WAVEFORM SHAPER
QR6011
QR6019
QR6015
QR6010
REC ON
Q6007
REC Ⓗ
Q6006
FULL ERASE HEAD
OSC
P1502
FE HEAD C.B.A.
REC 12V
TO AUDIO
TAKE·UP REEL (8 SECTORS)
SUPPLY REEL (8 SECTORS)
IC1501 ON2170
IC1502 ON2170
+B
TAKE·UP REEL SENSOR
SUPPLY REEL SENSOR
P6201
TO/FROM FRONT BOARD C.B.A.
TO FRONT BOARD C.B.A.
TO VIDEO
H.SW
REC Ⓗ
P. OFF Ⓗ
AUDIO MUTE Ⓗ
AUDIO E·E Ⓗ
VIDEO E·E Ⓗ
FM H SW
AUDIO MODE SEL Ⓗ

AUTO OFF (NO FG)

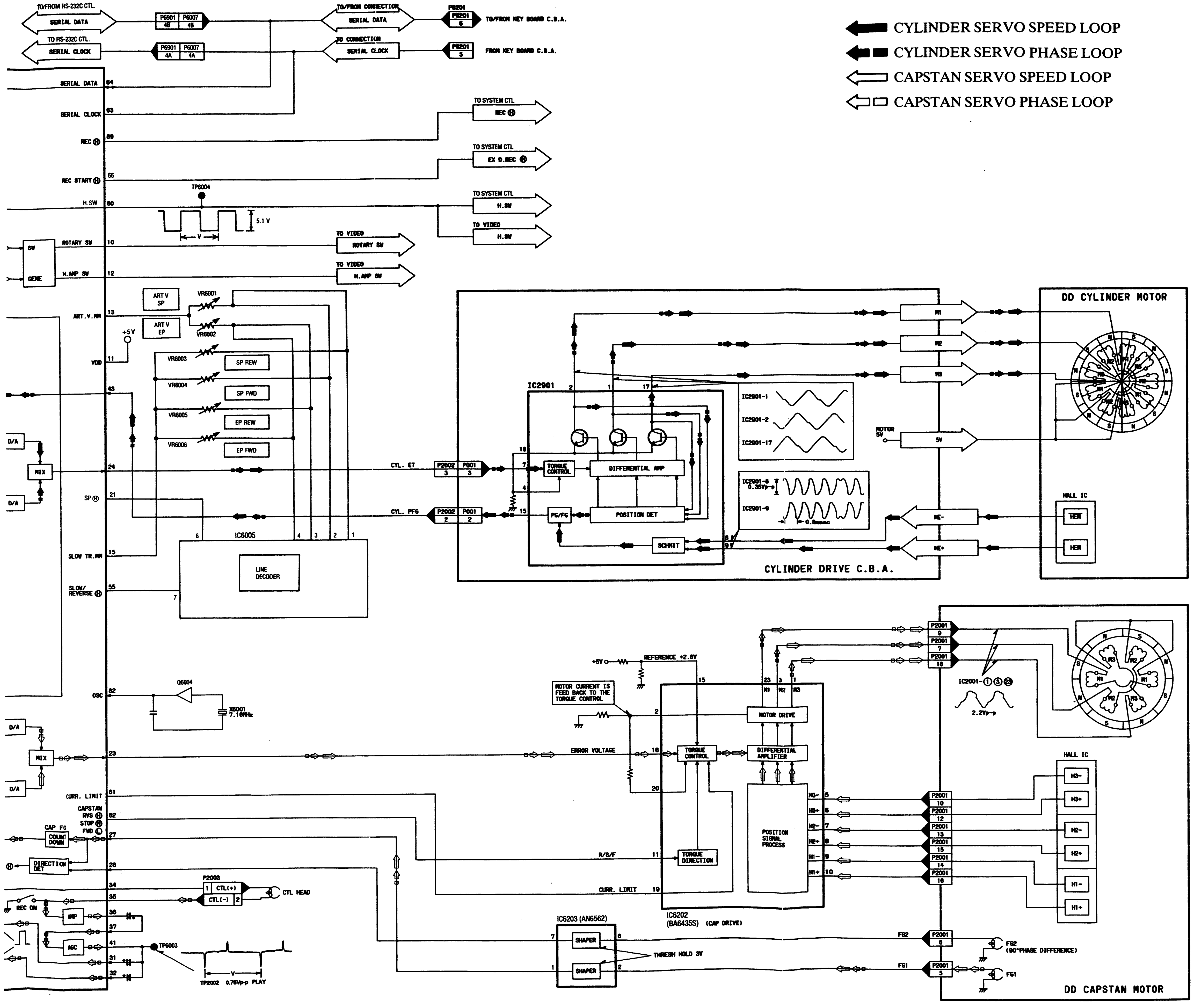
MODE	REEL LOCK
PLAY	MORE THAN 3.5sec
X2 PLAY	MORE THAN 2sec
CUE/REV	MORE THAN 0.68sec
FF / REW	MORE THAN 3.5sec

IC6005 PIN NO / MODE	IC6005 14	15	16	MOTOR DIRECTION
REV	L	L	H	FWD
SWITCH OVER TO FF / REW	L	H	L	RVS
RVS SLOW	H	L	H	FWD
REWIND	L	H	H	RVS
BREAK	H	H	L	STOP

SERVO BLOCK DIAGRAM



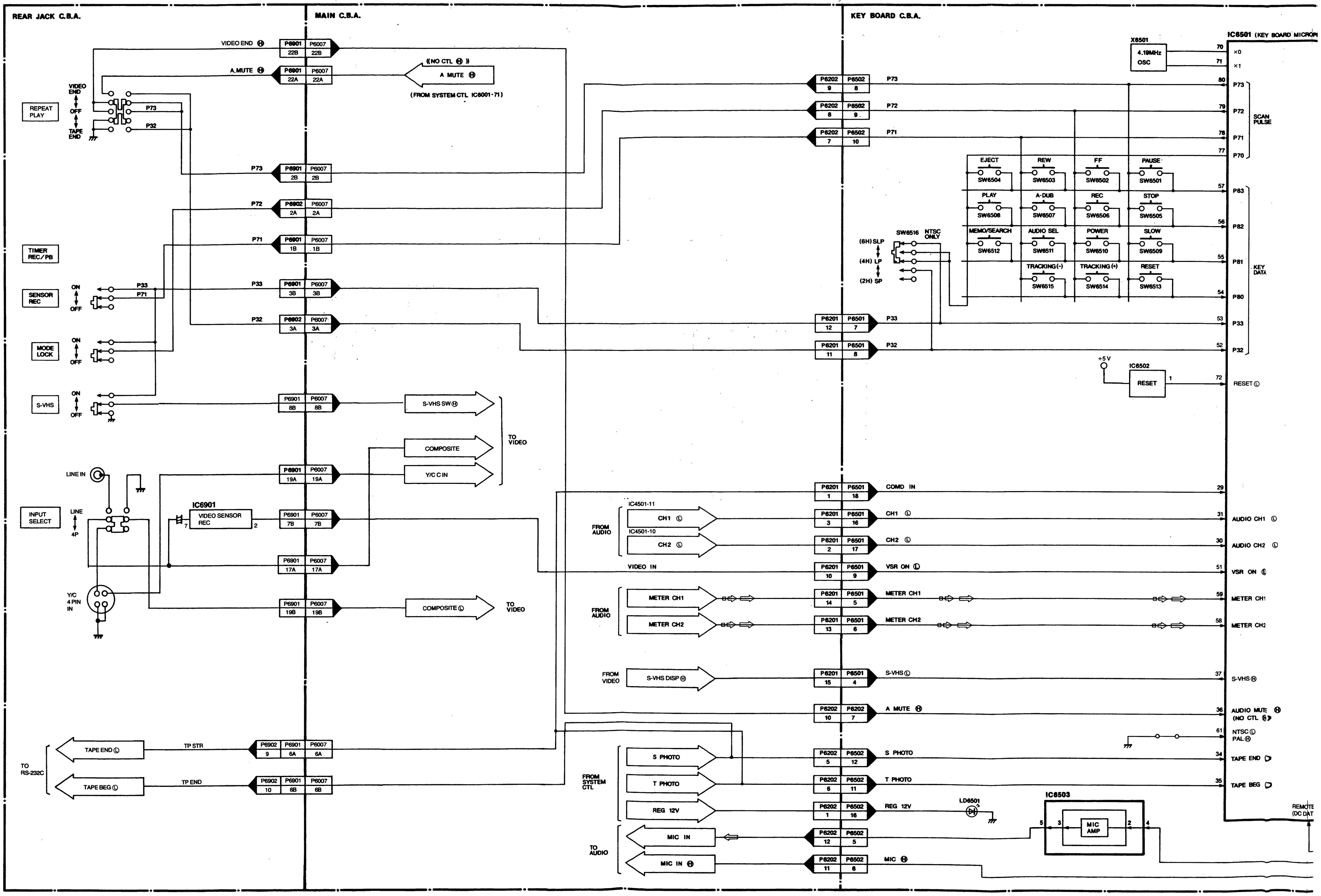
TO/FROM RS-232C CTL.
SERIAL DATA
P6901
P6007
4B
TO RS-232C CTL.
SERIAL CLOCK
4A
TO/FROM CONNECTION
TO CONNECTION
P8201
6
5
TO/FROM KEY BOARD C.B.A.
FROM KEY BOARD C.B.A.
IC6001 (MN67431)
(SYSTEM CONTROL/SERVO IC)
SERIAL DATA 64
SERIAL CLOCK 63
REC Ⓗ 60
REC START Ⓗ 66
H.SW 60
ROTARY SW 10
H.AMP SW 12
ART.V.MM 13
VDD 11
SP Ⓗ 21
SLOW TR.MM 15
SLOW/ REVERSE Ⓗ 55
OSC 82
CURR. LIMIT 61
CAPSTAN RVS Ⓗ 62
STOP Ⓗ
FWD Ⓛ 27
TO SYSTEM CTL
REC Ⓗ
EX D.REC Ⓗ
H.SW
TO VIDEO
ROTARY SW
H.AMP SW
TP6004
5.1 V
V
SLOW COMMAND
SW
GENE
MODE DECODER
H.SW GENERATOR
M.M.V
1/3
FG
FF
PG
PG/FG SEPA
CYL DIGITAL SPEED CONTROL
CYL DIGITAL PHASE CONTROL
D/A
MIX
COMP.SIG.
REF.SIG.
1/2
REC
P.B
CTL PULSE GENE
COUNT DOWN
OSC
FSC
+5V
PG SHIFTER
44
43
FROM VIDEO
VSS
26
ENV.SELECT 9
ENV DET
AUTO TRACKING
TRACKING M.M.V.
CAP DIGITAL PHASE CONTROL
CAP DIGITAL SPEED CONTROL
DUTY CONTROL
VISS WRITE ON
REC CTL.AMP
VISS RESET
VISS WRITE
CAP FG
DIRECTION DET
RVS Ⓗ
P.B.ON
DUTY DET
LINEAR COUNTER DATA
CLUMP
(-)
(+)
REC ON
AMP
AGC
24
23
28
34
35
36
37
41
31
32
P2003
CTL(+)
CTL(-)
CTL HEAD
TP6003
TP2002 0.76Vp-p PLAY
ART V SP
ART V EP
VR6001
VR6002
VR6003
VR6004
VR6005
VR6006
SP REW
SP FWD
EP REW
EP FWD
IC6005
LINE DECODER
Q6004
X6001 7.16MHz
CYL. ET
CYL. PFG
P2002
P001
IC2901
TORQUE CONTROL
DIFFERENTIAL AMP
POSITION DET
PG/FG
SCHMIT
IC2901-1
IC2901-2
IC2901-17
IC2901-8 0.35Vp-p
IC2901-9
CYL
REFERENCE +2.8V
MOTOR CURRENT IS FEED BACK TO THE TORQUE CONTROL
ERROR VOLTAGE
R/S/F
CURR. LIMIT
TORQUE DIRECTION
MOTOR
M1
DIFFEREN AMPLIFI
POSIT SIGNA PROCE
IC6202 (BA6435S) (CAP DRIVE)
IC6203 (AN6562)
SHAPER
THRESH HOLD 3V


CYLINDER SERVO SPEED LOOP
CYLINDER SERVO PHASE LOOP
CAPSTAN SERVO SPEED LOOP
CAPSTAN SERVO PHASE LOOP
TO/FROM RS-232C CTL.
SERIAL DATA
TO RS-232C CTL.
SERIAL CLOCK
P6901 P6007 4B 4B
P6901 P6007 4A 4A
TO/FROM CONNECTION
SERIAL DATA
TO CONNECTION
SERIAL CLOCK
P6201 6
P6201 5
TO/FROM KEY BOARD C.B.A.
FROM KEY BOARD C.B.A.
SERIAL DATA 64
SERIAL CLOCK 63
REC Ⓗ 69
REC START Ⓗ 66
H.SW 60
ROTARY SW 10
H.AMP SW 12
ART.V.MM 13
VDD 11
43
24
SP Ⓗ 21
SLOW TR.MM 15
SLOW/ REVERSE Ⓗ 55
OSC 62
23
CURR. LIMIT 61
CAPSTAN RVS Ⓗ STOP Ⓗ FWD Ⓛ 62
27
28
34
35
36
37
41
31
32
TO SYSTEM CTL
REC Ⓗ
TO SYSTEM CTL
EX D.REC Ⓗ
TO SYSTEM CTL
H.SW
TO VIDEO
H.SW
TO VIDEO
ROTARY SW
TO VIDEO
H.AMP SW
TP6004
5.1 V
V
SW
GENE
ART V SP
ART V EP
+5V
VR6001
VR6002
VR6003
VR6004
VR6005
VR6006
SP REW
SP FWD
EP REW
EP FWD
D/A
MIX
D/A
IC6005
LINE DECODER
CTL. ET
CTL. PFG
P2002 P001 3 3
P2002 P001 2 2
IC2901
TORQUE CONTROL
DIFFERENTIAL AMP
PG/FG
POSITION DET
SCHMIT
IC2901-1
IC2901-2
IC2901-17
IC2901-8 0.35Vp-p
IC2901-9
0.8msec
MOTOR 5V
M1
M2
M3
5V
HE-
HE+
CYLINDER DRIVE C.B.A.
DD CYLINDER MOTOR
HALL IC
HEN
HEN
Q6004
X6001 7.16MHz
+5V
REFERENCE +2.8V
MOTOR CURRENT IS FEED BACK TO THE TORQUE CONTROL
ERROR VOLTAGE
TORQUE CONTROL
MOTOR DRIVE
DIFFERENTIAL AMPLIFIER
POSITION SIGNAL PROCESS
TORQUE DIRECTION
R/S/F
CURR. LIMIT
IC6202 (BA6435S) (CAP DRIVE)
H3- H3+ H2- H2+ H1- H1+
P2001 9
P2001 7
P2001 18
P2001 10
P2001 12
P2001 13
P2001 15
P2001 14
P2001 16
P2001 6
P2001 5
IC2001-①③⑱
2.2Vp-p
HALL IC
H3-
H3+
H2-
H2+
H1-
H1+
FG2
FG2 (90°PHASE DIFFERENCE)
FG1
FG1
DD CAPSTAN MOTOR
IC6203 (AN6562)
SHAPER
SHAPER
THRESH HOLD 3V
CAP FG
COUNT DOWN
DIRECTION DET
P2003
CTL(+)
CTL(-)
CTL HEAD
REC ON
AMP
AGC
TP6003
TP2002 0.76Vp-p PLAY
D/A
MIX
D/A

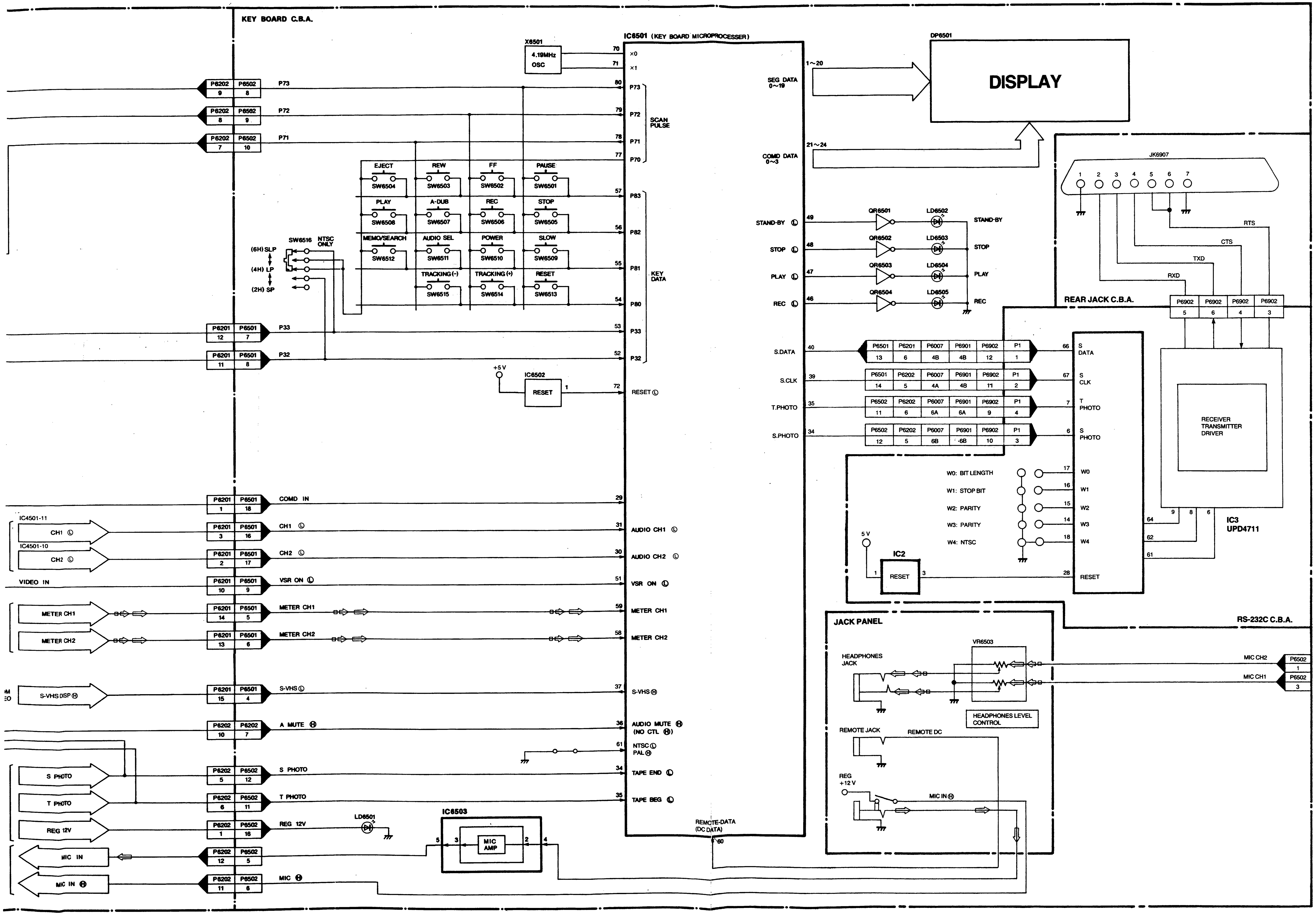
KEY BOARD BLOCK DIAGRAM

⇦ AUDIO MAIN SIGNAL PATH IN REC MODE

⇦▭ AUDIO MAIN SIGNAL PATH IN PLAYBACK

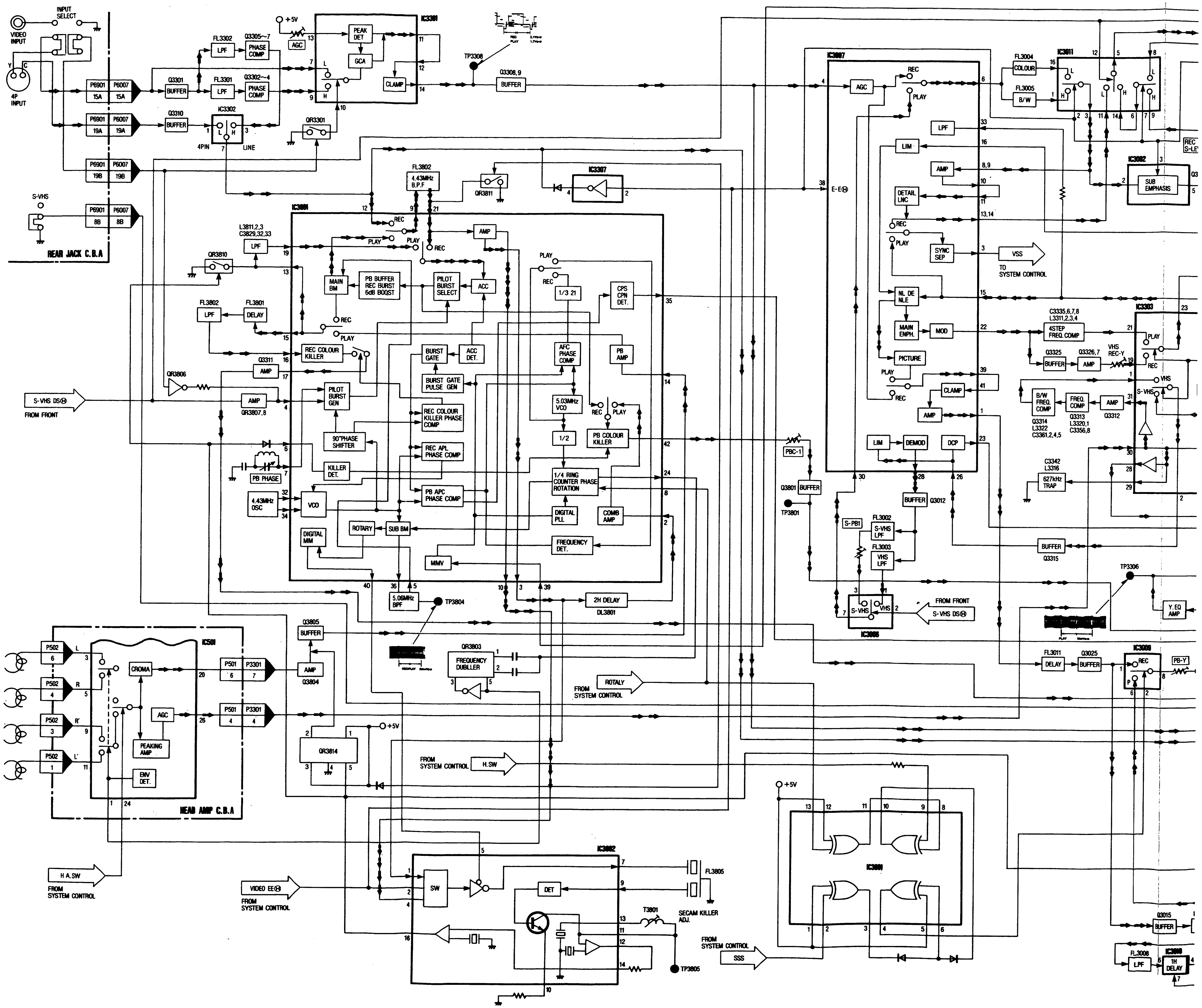

REAR JACK C.B.A.
MAIN C.B.A.
KEY BOARD C.B.A.
IC6501 (KEY BOARD MICROP
X6501
4.19MHz OSC
VIDEO END
A.MUTE
P6901
P6902
P6007
P6202
P6502
P6201
P6501
P73
P72
P71
P70
P33
P32
((NO CTL))
A MUTE
(FROM SYSTEM CTL IC6001-71)
REPEAT PLAY
VIDEO END
OFF
TAPE END
TIMER REC/PB
SENSOR REC
MODE LOCK
S-VHS
ON
OFF
SCAN PULSE
KEY DATA
EJECT
SW6504
REW
SW6503
FF
SW6502
PAUSE
SW6501
PLAY
SW6508
A-DUB
SW6507
REC
SW6506
STOP
SW6505
MEMO/SEARCH
SW6512
AUDIO SEL
SW6511
POWER
SW6510
SLOW
SW6509
TRACKING(-)
SW6515
TRACKING(+)
SW6514
RESET
SW6513
SW6516
NTSC ONLY
(6H) SLP
(4H) LP
(2H) SP
P83
P82
P81
P80
+5V
IC6502
RESET
RESET
S-VHS SW
COMPOSITE
Y/C C IN
TO VIDEO
COMPOSITE
TO VIDEO
LINE IN
INPUT SELECT
LINE
4P
IC6901
VIDEO SENSOR REC
Y/C 4 PIN IN
COMD IN
IC4501-11
CH1
IC4501-10
CH2
FROM AUDIO
VIDEO IN
AUDIO CH1
AUDIO CH2
VSR ON
METER CH1
METER CH2
FROM AUDIO
S-VHS DISP
FROM VIDEO
S-VHS
A MUTE
AUDIO MUTE (NO CTL)
NTSC
PAL
TAPE END
TAPE BEG
TO RS-232C
TP STR
TP END
S PHOTO
T PHOTO
REG 12V
FROM SYSTEM CTL
LD6501
IC6503
MIC AMP
MIC IN
MIC
TO AUDIO
REMOTE (DC DAT

⇐ AUDIO MAIN SIGNAL PATH IN REC MODE ⇐ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

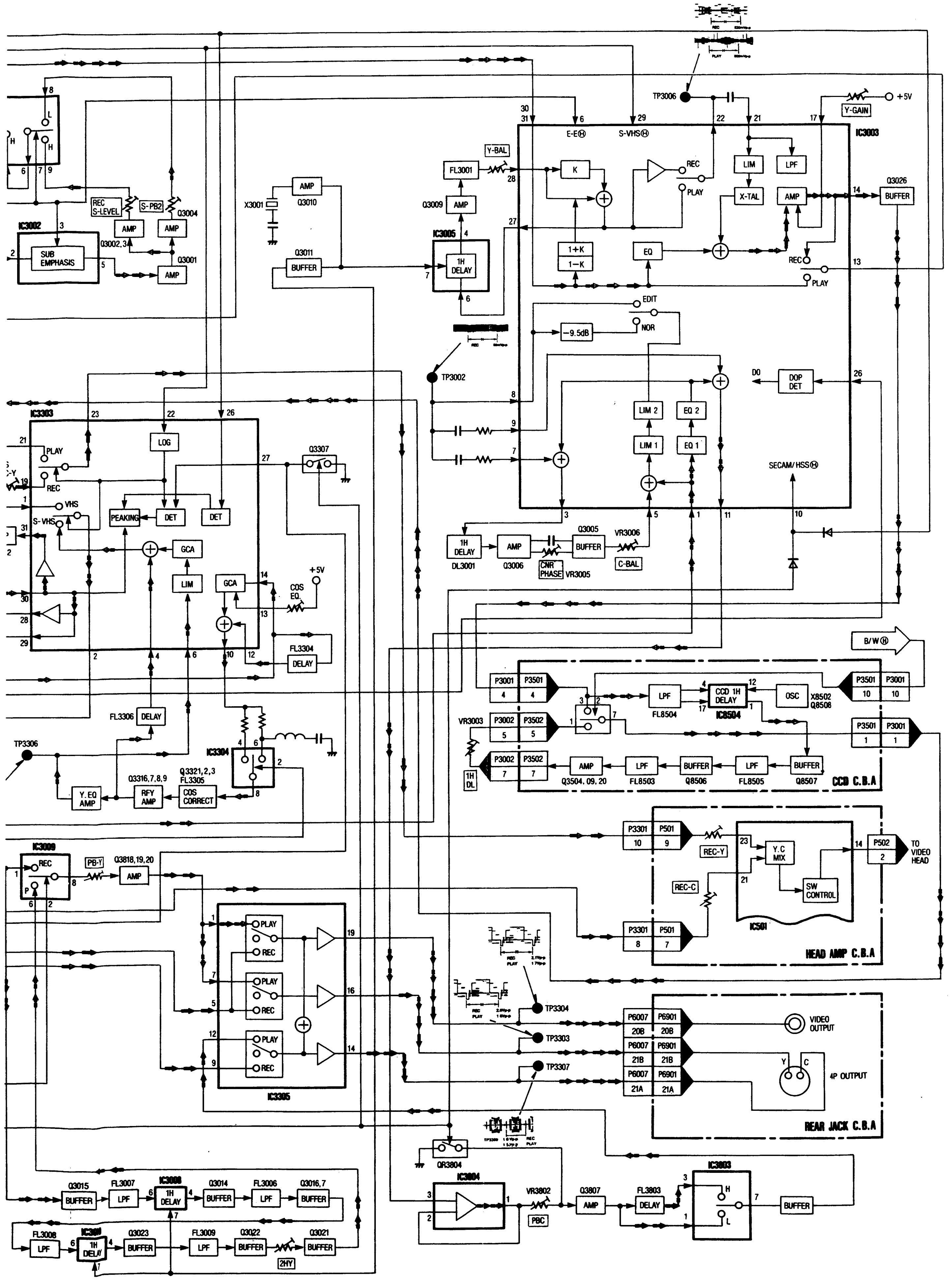

KEY BOARD C.B.A.
IC6501 (KEY BOARD MICROPROCESSER)
X6501
4.19MHz OSC
x0
x1
P73
P72
P71
P70
SCAN PULSE
P83
P82
P81
P80
P33
P32
KEY DATA
RESET
SEG DATA 0~19
COMD DATA 0~3
1~20
21~24
DP6501
DISPLAY
EJECT SW6504
REW SW6503
FF SW6502
PAUSE SW6501
PLAY SW6508
A-DUB SW6507
REC SW6506
STOP SW6505
MEMO/SEARCH SW6512
AUDIO SEL SW6511
POWER SW6510
SLOW SW6509
TRACKING (-) SW6515
TRACKING (+) SW6514
RESET SW6513
SW6516 NTSC ONLY
(6H) SLP
(4H) LP
(2H) SP
+5 V
IC6502 RESET
STAND-BY
STOP
PLAY
REC
QR6501
QR6502
QR6503
QR6504
LD6502
LD6503
LD6504
LD6505
S.DATA
S.CLK
T.PHOTO
S.PHOTO
P6501
P6201
P6202
P6007
P6901
P6902
P1
JK6907
RTS
CTS
TXD
RXD
REAR JACK C.B.A.
RECEIVER TRANSMITTER DRIVER
IC3 UPD4711
W0: BIT LENGTH
W1: STOP BIT
W2: PARITY
W3: PARITY
W4: NTSC
IC2 RESET
5 V
RS-232C C.B.A.
COMD IN
IC4501-11
CH1
IC4501-10
CH2
VIDEO IN
VSR ON
METER CH1
METER CH2
S-VHS DISP
S-VHS
A MUTE
AUDIO CH1
AUDIO CH2
VSR ON
AUDIO MUTE (NO CTL)
NTSC PAL
TAPE END
TAPE BEG
S PHOTO
T PHOTO
REG 12V
LD6501
IC6503
MIC AMP
MIC IN
MIC
REMOTE-DATA (DC DATA)
JACK PANEL
HEADPHONES JACK
VR6503
HEADPHONES LEVEL CONTROL
REMOTE JACK
REMOTE DC
REG +12 V
MIC IN
MIC CH2
MIC CH1
P6502
FROM AUDIO

VIDE-V00638 /Druck10

VIDEO BLOCK DIAGRAM



INPUT SELECT
VIDEO INPUT
4P INPUT
Y
C
S-VHS
REAR JACK C.B.A
P6901
P6007
15A
19A
19B
8B
+5V
AGC
FL3302
LPF
Q3305~7
PHASE COMP
FL3301
Q3302~4
Q3301
BUFFER
Q3310
IC3302
4PIN
LINE
L
H
QR3301
IC3301
PEAK DET
GCA
CLAMP
TP3308
REC
PLAY
Q3308,9
FL3802
4.43MHz B.P.F
QR3811
IC3307
IC3801
L3811,2,3
C3829,32,33
QR3810
MAIN BM
PB BUFFER REC BURST 6dB BOOST
PILOT BURST SELECT
ACC
AMP
1/3 21
CPS CPN DET.
FL3802
FL3801
DELAY
REC COLOUR KILLER
BURST GATE
ACC DET.
AFC PHASE COMP
PB AMP
Q3311
BURST GATE PULSE GEN
5.03MHz VCO
QR3806
S-VHS DS⊕
FROM FRONT
QR3807,8
PILOT BURST GEN
REC COLOUR KILLER PHASE COMP
1/2
PB COLOUR KILLER
90°PHASE SHIFTER
REC APL PHASE COMP
PB PHASE
KILLER DET.
1/4 RING COUNTER PHASE ROTATION
4.43MHz OSC
VCO
PB APC PHASE COMP
DIGITAL PLL
COMB AMP
ROTARY
SUB BM
DIGITAL MM
FREQUENCY DET.
MMV
5.06MHz BPF
TP3804
2H DELAY
DL3801
Q3805
Q3804
IC501
CROMA
AGC
PEAKING AMP
ENV DET.
P502
P501
P3301
HEAD AMP C.B.A
QR3803
FREQUENCY DUBLLER
FROM SYSTEM CONTROL
ROTALY
QR3814
H.SW
H A.SW
VIDEO EE⊕
IC3802
SW
DET
FL3805
T3801
SECAM KILLER ADJ.
TP3805
IC3007
E-E⊕
LIM
DETAIL LNC
SYNC SEP
VSS
TO SYSTEM CONTROL
NL DE NLE
MAIN ENPH.
MOD
PICTURE
CLAMP
DEMOD
DCP
PBC-1
Q3801
TP3801
S-PB1
FL3002
S-VHS LPF
FL3003
VHS LPF
Q3012
IC3006
FROM FRONT
S-VHS DS⊕
FL3004
COLOUR
FL3005
B/W
IC3011
IC3002
SUB EMPHASIS
REC S-LE
IC3303
C3335,6,7,8
L3311,2,3,4
4STEP FREQ. COMP
Q3325
Q3326,7
VHS REC-Y
B/W FREQ. COMP
FREQ. COMP
Q3314
L3322
C3361,2,4,5
Q3313
L3320,1
C3356,8
Q3312
C3342
L3316
627kHz TRAP
Q3315
TP3306
Y.EQ AMP
FL3011
Q3025
IC3009
PB-Y
IC3001
SSS
Q3015
FL3008
IC3008
1H DELAY


TP3006
Y-GAIN
+5V
IC3003
E-E H
S-VHS H
Y-BAL
FL3001
K
REC
PLAY
LIM
LPF
X-TAL
AMP
Q3026
BUFFER
Q3009
IC3005
1H DELAY
1+K
1−K
EQ
EDIT
NOR
−9.5dB
TP3002
DO
DOP DET
LIM 2
EQ 2
LIM 1
EQ 1
SECAM/HSS H
X3001
Q3010
Q3011
IC3002
SUB EMPHASIS
REC S-LEVEL
S-PB2
Q3004
Q3002,3
Q3001
IC3303
LOG
PEAKING
DET
GCA
LIM
COS EQ
FL3304
DELAY
Q3307
1H DELAY
DL3001
Q3006
CNR PHASE
VR3005
Q3005
VR3006
C-BAL
B/W H
P3001
P3501
P3002
P3502
VR3003
1H DL
FL8504
CCD 1H DELAY
IC8504
OSC
X8502 Q8508
Q3504, 09, 20
FL8503
Q8506
FL8505
Q8507
CCD C.B.A
FL3306
TP3306
IC3304
Q3321,2,3 FL3305
Q3316,7,8,9
Y. EQ AMP
RFY AMP
COS CORRECT
P3301
P501
REC-Y
REC-C
Y.C MIX
SW CONTROL
IC501
P502
TO VIDEO HEAD
HEAD AMP C.B.A
IC3009
PB-Y
Q3818,19,20
IC3305
TP3304
TP3303
TP3307
P6007
P6901
VIDEO OUTPUT
4P OUTPUT
REAR JACK C.B.A
QR3804
IC3804
VR3802
PBC
Q3807
FL3803
IC3803
Q3015
FL3007
IC3008
Q3014
FL3006
Q3016,7
FL3008
IC3011
Q3023
FL3009
Q3022
Q3021
2HY

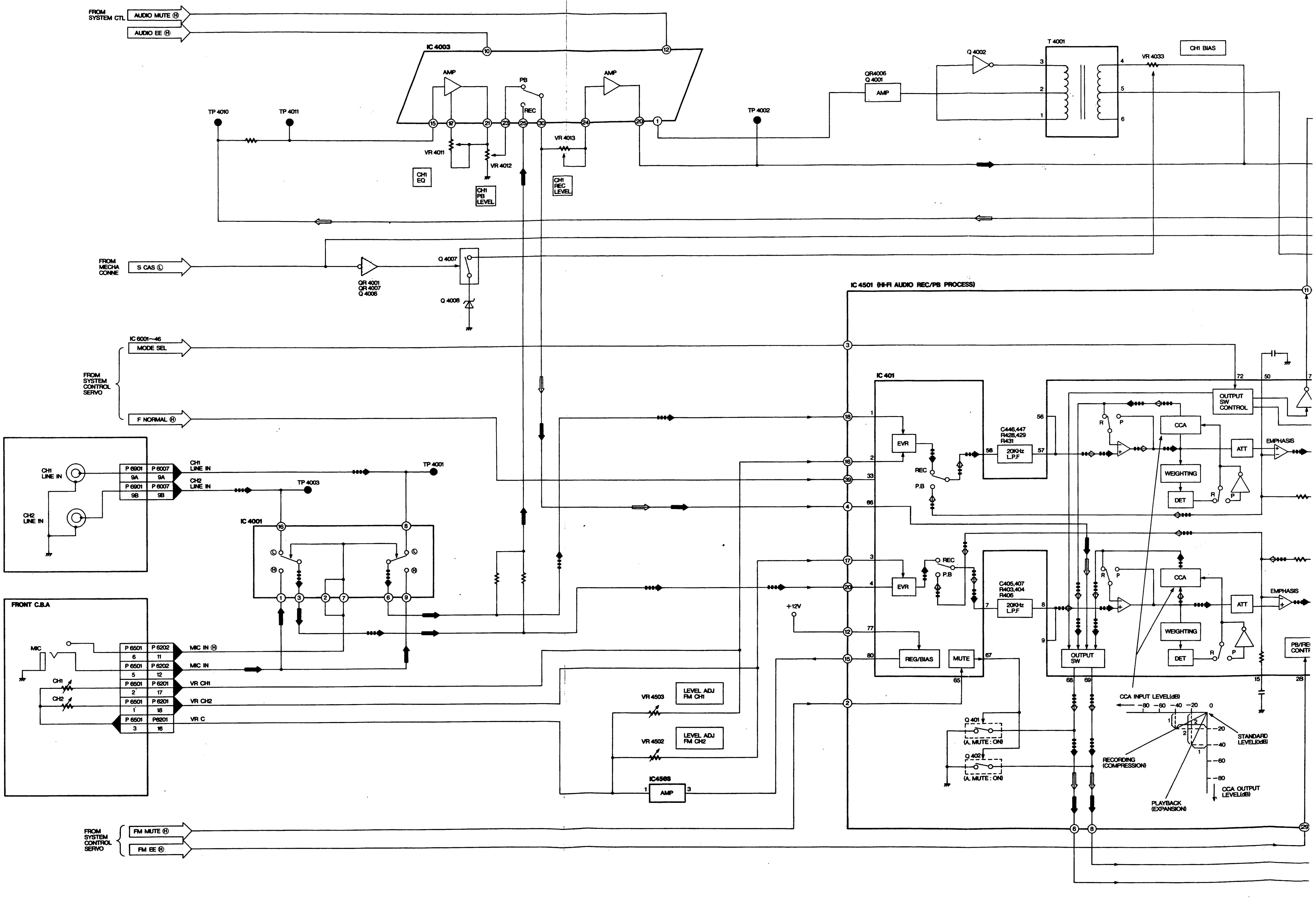
⬅ MAIN SIGNAL PATH IN REC MODE (VHS)

⇦ MAIN SIGNAL PATH IN REC MODE (S-VHS)

⬅■ MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)

⇦□ MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)

AUDIO BLOCK DIAGRAM

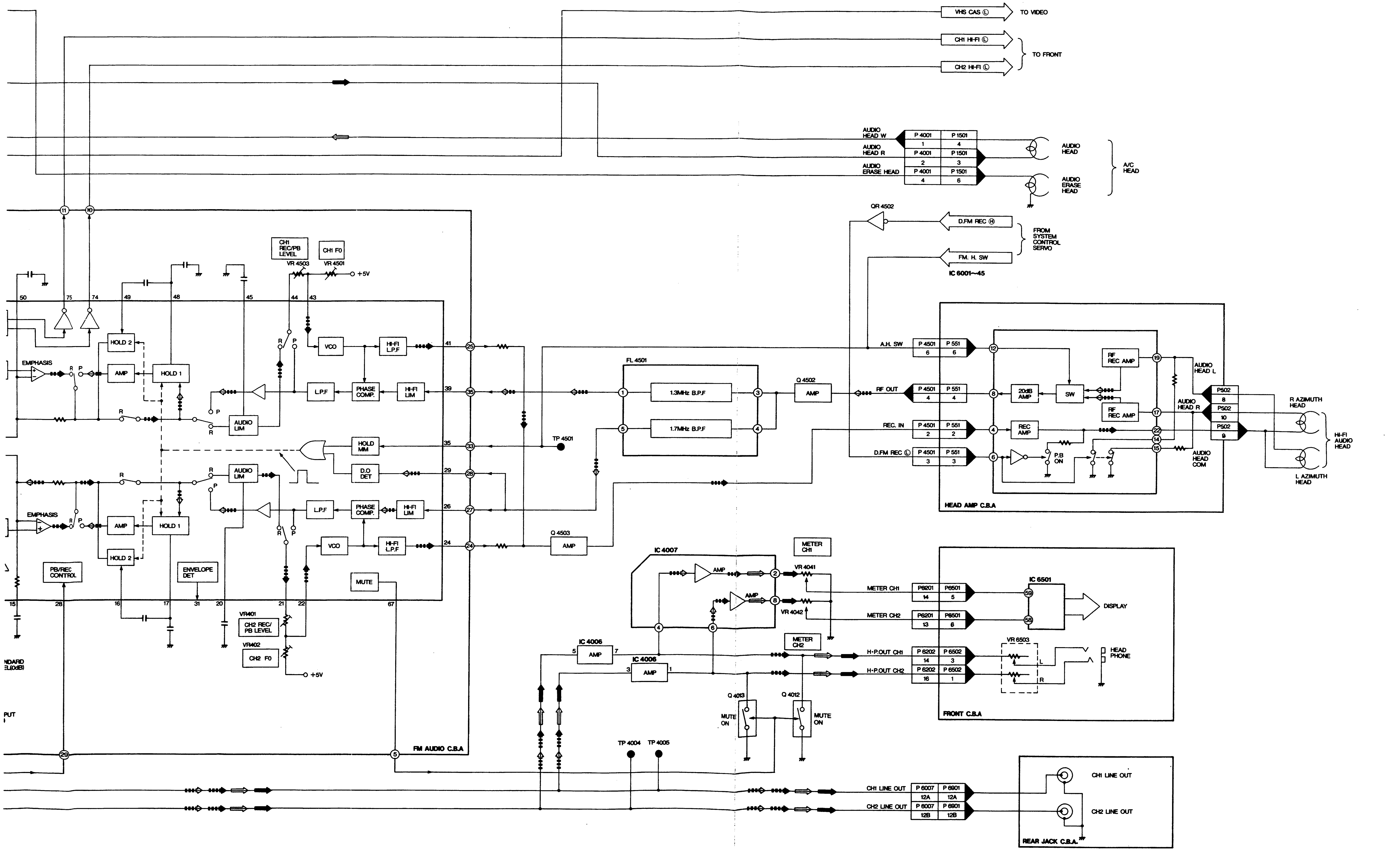

FROM SYSTEM CTL
AUDIO MUTE Ⓗ
AUDIO EE Ⓗ
IC 4003
AMP
PB
REC
AMP
TP 4010
TP 4011
VR 4011
VR 4012
VR 4013
CH1 EQ
CH1 PB LEVEL
CH1 REC LEVEL
TP 4002
QR4006
Q 4001
AMP
Q 4002
T 4001
VR 4033
CH1 BIAS
FROM MECHA CONNE
S CAS Ⓛ
QR 4001
QR 4007
Q 4006
Q 4007
Q 4008
IC 4501 (HI-FI AUDIO REC/PB PROCESS)
IC 6001~46
MODE SEL
FROM SYSTEM CONTROL SERVO
F NORMAL Ⓗ
IC 401
OUTPUT SW CONTROL
CH1 LINE IN
CH2 LINE IN
P 6901
P 6007
9A
9B
TP 4001
TP 4003
IC 4001
EVR
REC
P.B
C446,447
R428,429
R431
20KHz L.P.F
CCA
WEIGHTING
DET
ATT
EMPHASIS
R
P
C405,407
R403,404
R406
20KHz L.P.F
+12V
REG/BIAS
MUTE
OUTPUT SW
FRONT C.B.A
MIC
CH1
CH2
P 6501
P 6202
P 6201
P6201
MIC IN Ⓗ
MIC IN
VR CH1
VR CH2
VR C
LEVEL ADJ FM CH1
VR 4503
LEVEL ADJ FM CH2
VR 4502
IC4563
AMP
Q 401
(A. MUTE : ON)
Q 402
(A. MUTE : ON)
CCA INPUT LEVEL(dB)
-80 -60 -40 -20 0
-20
-40
-60
-80
STANDARD LEVEL(0dB)
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
CCA OUTPUT LEVEL(dB)
PB/REC CONTR
FROM SYSTEM CONTROL SERVO
FM MUTE Ⓗ
FM EE Ⓗ

◀ NORMAL AUDIO MAIN SIGNAL PATH IN REC MODE

◁ NORMAL AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

◀■ Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE

◁□ Hi-Fi AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


VHS CAS Ⓛ
TO VIDEO
CH1 HI-FI Ⓛ
CH2 HI-FI Ⓛ
TO FRONT
AUDIO HEAD W
AUDIO HEAD R
AUDIO ERASE HEAD
P 4001
P 1501
AUDIO HEAD
AUDIO ERASE HEAD
A/C HEAD
QR 4502
D.FM REC Ⓗ
FM. H. SW
FROM SYSTEM CONTROL SERVO
IC 6001~45
CH1 REC/PB LEVEL
CH1 F0
VR 4503
VR 4501
+5V
EMPHASIS
HOLD 2
HOLD 1
AMP
AUDIO LIM
VCO
HI-FI L.P.F
L.P.F
PHASE COMP.
HI-FI LIM
HOLD MM
D.O DET
FL 4501
1.3MHz B.P.F
1.7MHz B.P.F
Q 4502
Q 4503
TP 4501
A.H. SW
RF OUT
REC. IN
D.FM REC Ⓛ
P 4501
P 551
20dB AMP
SW
RF REC AMP
REC AMP
P.B ON
AUDIO HEAD L
AUDIO HEAD R
AUDIO HEAD COM
P502
R AZIMUTH HEAD
L AZIMUTH HEAD
Hi-Fi AUDIO HEAD
HEAD AMP C.B.A
PB/REC CONTROL
ENVELOPE DET
MUTE
VR401
CH2 REC/PB LEVEL
VR402
CH2 F0
FM AUDIO C.B.A
IC 4007
IC 4006
METER CH1
METER CH2
VR 4041
VR 4042
P6201
P6501
IC 6501
DISPLAY
H·P.OUT CH1
H·P.OUT CH2
P 6202
P 6502
VR 6503
HEAD PHONE
FRONT C.B.A
Q 4013
Q 4012
MUTE ON
TP 4004
TP 4005
CH1 LINE OUT
CH2 LINE OUT
P 6007
P 6901
12A
12B
REAR JACK C.B.A.
NDARD
EL(0dB)
PUT

Section 4

SCHEMATIC DIAGRAMS
and
CIRCUIT BOARDS

CONTENTS

POWER SUPPLY C.B.A. SCM-3
POWER SUPPLY SCHEMATIC DIAGRAM SEM-3
SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM SCM-4
SYSTEM CONTROL ICs VOLTAGE CHART SCM-5
AUDIO SCHEMATIC DIAGRAM SCM-5
FM AUDIO SCHEMATIC DIAGRAM SCM-6
FM AUDIO C.B.A. SCM-6
MAIN C.B.A. SCM-7
VIDEO Y SCHEMATIC DIAGRAM SCM-8
VIDEO C SCHEMATIC DIAGRAM SCM-8
VIDEO I/O SCHEMATIC DIAGRAM SCM-9
REAR JACK SCHEMATIC DIAGRAM SCM-10
REAR JACK C.B.A. SCM-11
DRIVE & INTERFACE SCHEMATIC DIAGRAM SCM-11
RS-232C C.B.A. SCM-12
RS-232C SCHEMATIC DIAGRAM SCM-12
CCD C.B.A. SCM-12
CCD SCHEMATIC DIAGRAM SCM-13
HEAD AMP C.B.A. SCM-14
HEAD AMP SCHEMATIC DIAGRAM SCM-15
MOTOR REGULATOR C.B.A. SCM-15
MOTOR REGULATOR SCHEMATIC DIAGRAM SCM-15
KEY BOARD C.B.A. & REMOTE CONTROL JACK C.B.A. SCM-16
KEY BOARD SCHEMATIC DIAGRAM SCM-17
INTERCONNECTION SCHEMATIC DIAGRAM SCM-18

MODULES

This section provides the block diagrams, schematic diagrams and printed circuit boards.

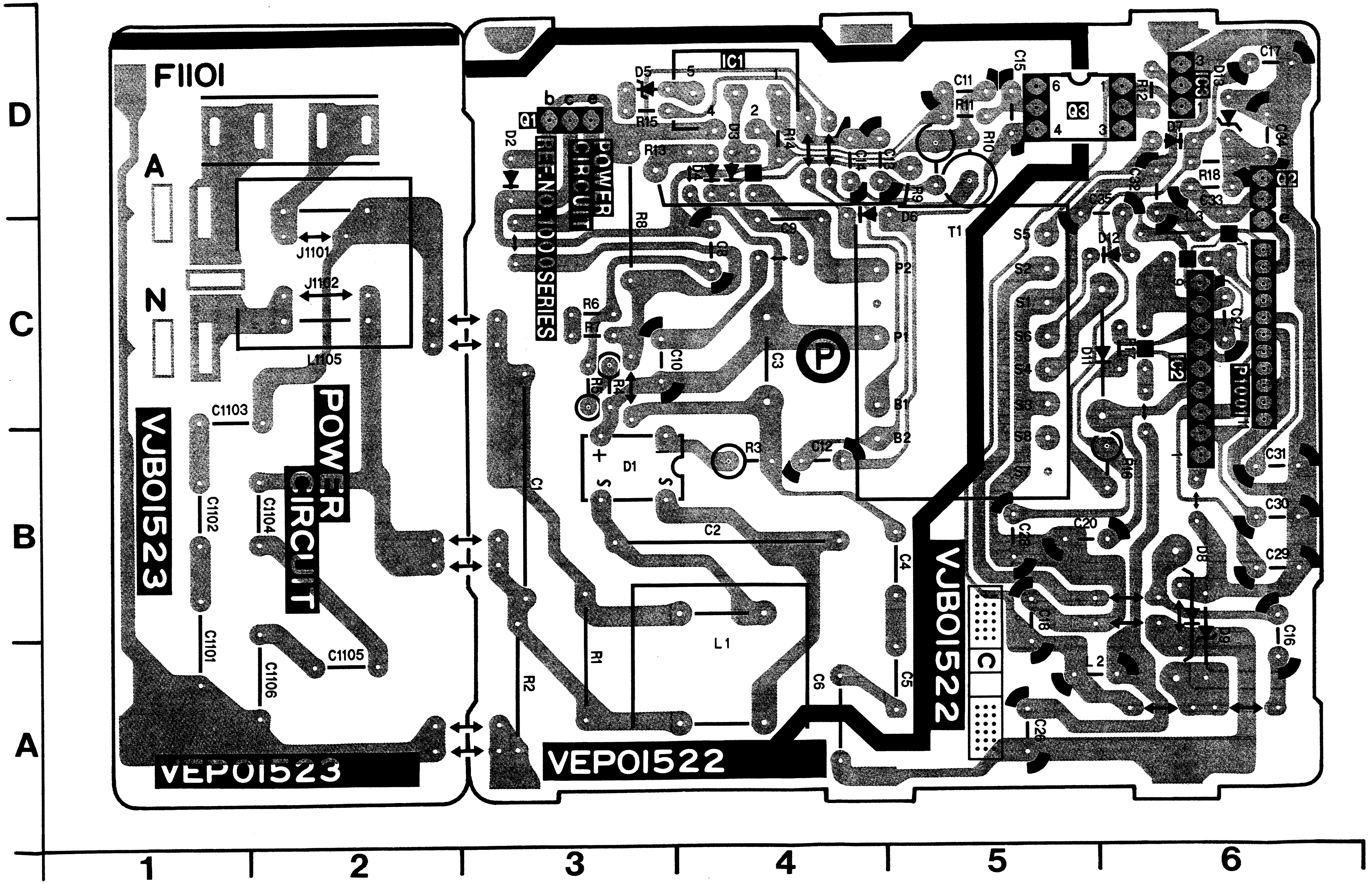
Note:

1. Do not use the part numbers shown on the schematic diagram or P.C.Board layout for ordering.
   The correct part number for ordering is shown in the Exploded View/Parts List section.
2. Unless otherwise specified, all resistors are in OHMS, K=1,000 OHMS, all capacitors are in MICROFARADS (uF), P=uuF.
3. The foil paterns on the P.C.Board layout, printed with the blue color is the component side.
4. Note: The measurement mode of the DC voltage in the brackets (   ) on this diagram is rec mode.
   The measurement mode of the DC voltage out of the brackets on this diagram is stop mode.
   Measurement signal ... NTSC colour signal
5. Components identified with the mark ⚠ have the special characteristics for safety when replaceing any of these components.
   Use only the same type.

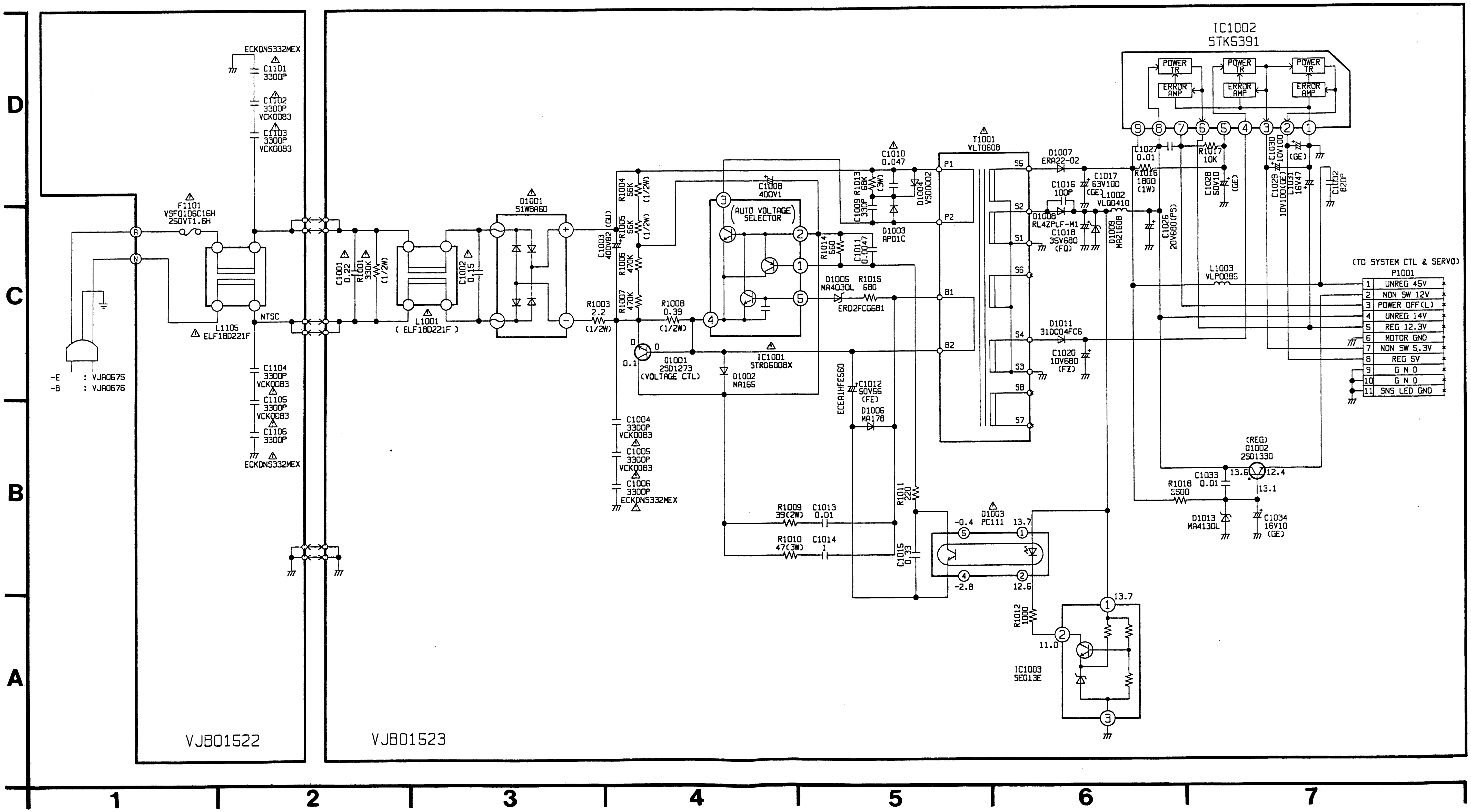
POWER SUPPLY (1) C.B.A. (VEP01523A) AND POWER SUPPLY (2) C.B.A. (VEP01522A)

POWER SUPPLY C.B.A.	
Transistor	
Q1001	D-3
Q1002	D-6
Q1003	D-5
Integrated Circuit	
IC1001	D-4
IC1002	C-6
IC1003	D-6
Connector	
P1001	C-6

ADDRESS INFORMATION


D
C
B
A
1
2
3
4
5
6
F1101
A
N
J1101
J1102
L1105
C1103
C1102
C1104
C1101
C1105
C1106
POWER CIRCUIT
VJB01523
VEP01523
Q1
b c e
D2
POWER CIRCUIT
REF.NO.1000 SERIES
D5
R15
IC1
5
4
2
R13
D3
R14
D4
C14
C13
R10
C11
R11
C15
Q3
6
1
4
3
R12
D13
IC3
3
1
D7
C17
C34
R8
C8
C9
R9
D6
T1
C28
C35
R18
C33
C32
IC2
e
D12
R6
R5
R16
R4
C10
C3
P
P2
P1
B1
B2
S5
S2
S1
S6
S4
S3
S8
S7
D11
R17
C27
IC2
P1001
R19
+
D1
S
S
R3
C12
C31
C30
C29
C1
C2
C20
C19
D8
C4
VJB01522
C18
C16
L1
R1
R2
C6
C5
L2
D9
C
C26
VEP01522

POWER SUPPLY SCHEMATIC DIAGRAM

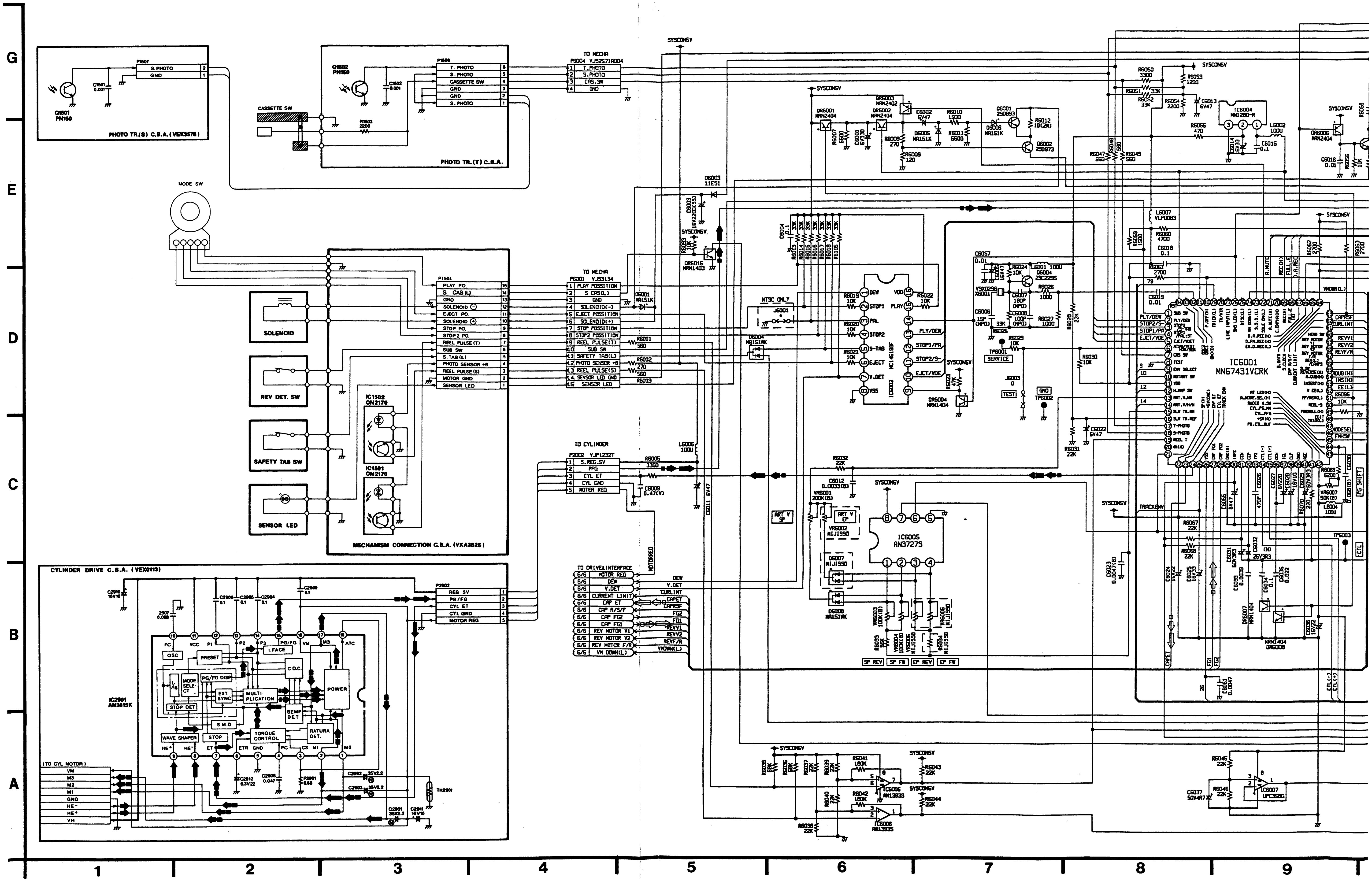

D
C
B
A
1
2
3
4
5
6
7
ECKDN5332MEX
C1101
3300P
C1102
3300P
VCK0083
C1103
3300P
VCK0083
F1101
VSF0106C16H
250VT1.6H
A
N
L1105
ELF18D221F
NTSC
C1104
3300P
VCK0083
C1105
3300P
VCK0083
C1106
3300P
ECKDN5332MEX
-E : VJA0675
-B : VJA0676
VJB01522
C1001
0.22
R1001
330K
(1/2W)
L1001
(ELF18D221F)
C1002
0.15
D1001
S1WBA60
C1003
400V82 (GU)
R1004
56K
(1/2W)
R1005
56K
(1/2W)
R1006
470K
R1007
470K
R1003
2.2
(1/2W)
R1008
0.39
(1/2W)
0
0
0.1
Q1001
2SD1273
(VOLTAGE CTL)
C1008
400V1
AUTO VOLTAGE SELECTOR
IC1001
STRD6008X
D1002
MA165
C1004
3300P
VCK0083
C1005
3300P
VCK0083
C1006
3300P
ECKDN5332MEX
VJB01523
C1010
0.047
R1013
68K
(3W)
C1009
330P
D1004
VSD0002
D1003
AP01C
R1014
560
C1011
0.0047
D1005
MA4030L
R1015
680
ERD2FCG681
ECEA1HFE560
C1012
50V56
(FE)
D1006
MA178
R1009
39(2W)
C1013
0.01
R1010
47(3W)
C1014
1
R1011
220
C1015
0.33
T1001
VLT0608
P1
P2
B1
B2
S5
S2
S1
S6
S4
S3
S8
S7
Q1003
PC111
-0.4
13.7
-2.8
12.6
R1012
1000
11.0
13.7
IC1003
SE013E
D1007
ERA22-02
C1016
100P
C1017
63V100
(GE)
D1008
RL4ZPLF-M1
C1018
35V680
(FQ)
L1002
VL00410
D1009
MA21608
C1026
20V680(PS)
D1011
310D04FC6
C1020
10V680
(FZ)
IC1002
STK5391
POWER TR
ERROR AMP
C1027
0.01
R1016
1800
(1W)
R1017
10K
C1028
50V10
(GE)
C1030
10V100
C1029
10V100(GE)
C1031
16V47
(GE)
C1032
820P
L1003
VLP0095
(TO SYSTEM CTL & SERVO)
P1001
1 UNREG 45V
2 NON SW 12V
3 POWER OFF(L)
4 UNREG 14V
5 REG 12.3V
6 MOTOR GND
7 NON SW 5.3V
8 REG 5V
9 G N D
10 G N D
11 SNS LED GND
(REG)
Q1002
2SD1330
13.6
12.4
13.1
C1033
0.01
R1018
5600
D1013
MA4130L
C1034
16V10
(GE)

SYSTEM CONTROL & SERVO SCHEMATIC DIAGRAM

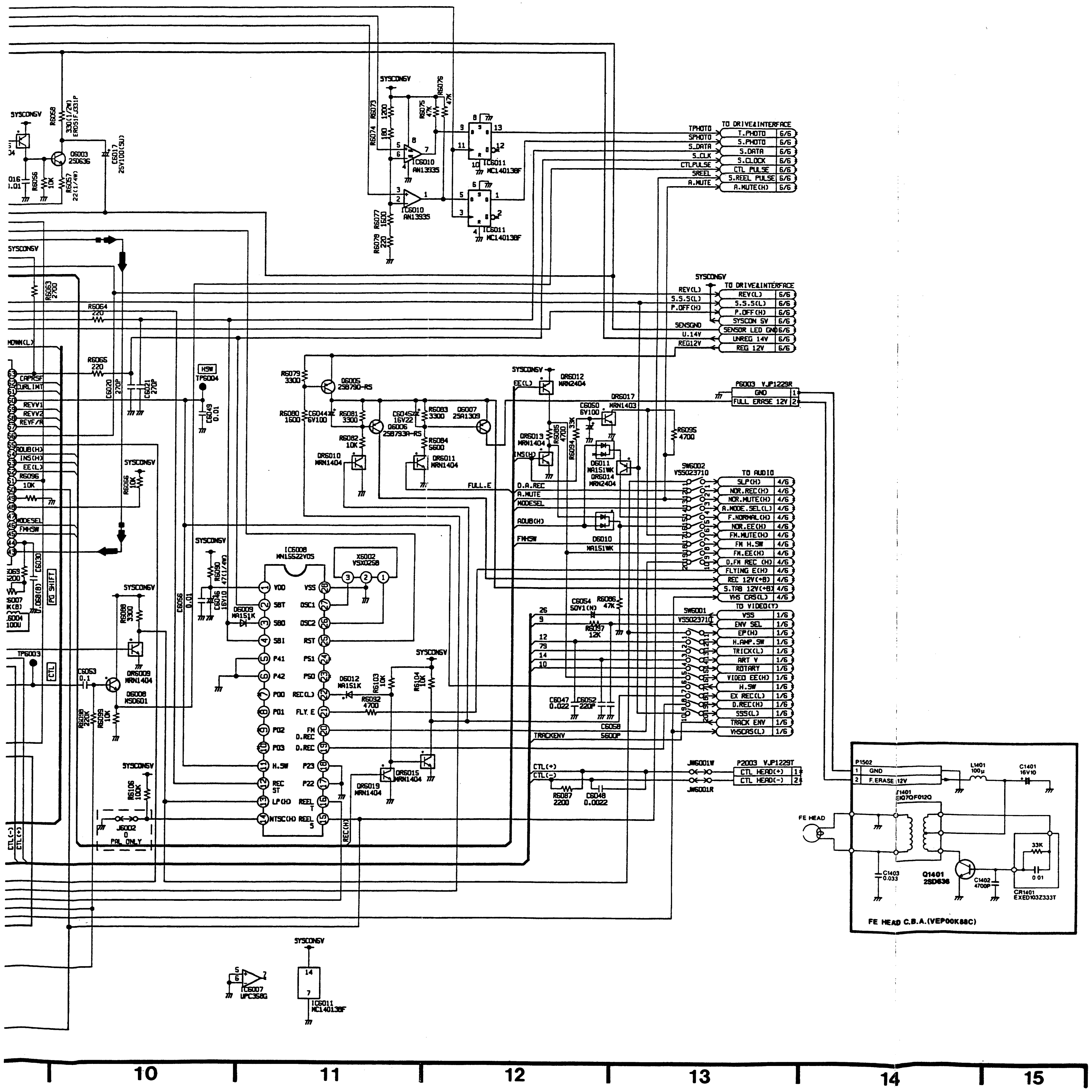
CYLINDER SERVO SPEED LOOP

CYLINDER SERVO PHASE LOOP

CAPSTAN SER

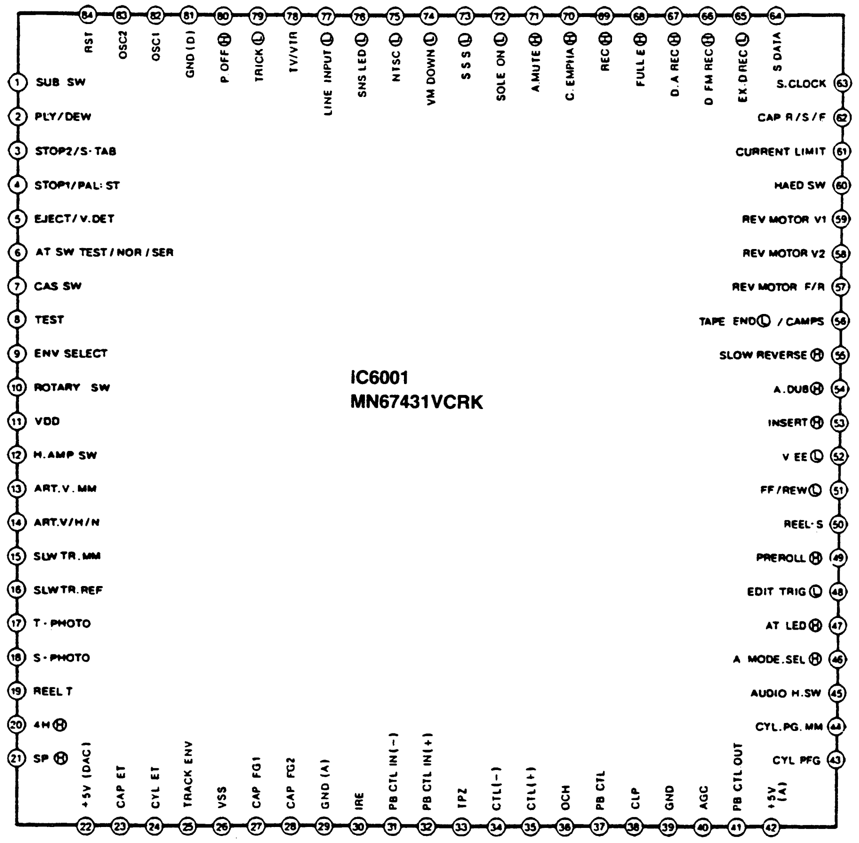

G
E
D
C
B
A
1
2
3
4
5
6
7
8
9
PHOTO TR.(S) C.B.A. (VEK3578)
Q1501 PN150
P1507
S. PHOTO
GND
C1501 0.001
PHOTO TR.(T) C.B.A.
Q1502 PN150
CASSETTE SW
R1503 2200
C1502 0.001
P1506
T. PHOTO
S. PHOTO
CASSETTE SW
GND
TO MECHA
P6004 VJS2571A004
T.PHOTO
S.PHOTO
CAS.SW
GND
MODE SW
SOLENOID
REV DET. SW
SAFETY TAB SW
SENSOR LED
IC1502 ON2170
IC1501 ON2170
MECHANISM CONNECTION C.B.A. (VXA3825)
P1504
PLAY PO.
S CAS(L)
SOLENOID (−)
EJECT PO.
SOLENOID (+)
STOP PO.
STOP2 PO.
REEL PULSE (T)
SUB SW
S. TAB (L)
PHOTO SENSOR +8
REEL PULSE (S)
MOTOR GND
SENSOR LED
TO MECHA
P6001 VJS3134
PLAY POSSITION
S CAS(L)
SOLENOID(−)
EJECT POSSITION
SOLENOID(+)
STOP POSSITION
STOP2 POSSITION
REEL PULSE(T)
SUB SW
SAFETY TAB(L)
PHOTO SENSOR +8
REEL PULSE(S)
SENSOR LED GND
SENSOR LED
TO CYLINDER
P2002 VJP1232T
S.REG.5V
PFG
CYL ET
CYL GND
MOTER REG
CYLINDER DRIVE C.B.A. (VEX0113)
IC2901 AN3815K
OSC
PRESET
I. FACE
C.D.C.
POWER
MODE SELECT
PG/FG DISP
EXT. SYNC
MULTIPLICATION
STOP DET
BEMF DET
S.M.D
WAVE SHAPER
STOP
TORQUE CONTROL
RATURA DET.
P2902
REG 5V
PG/FG
CYL ET
CYL GND
MOTOR REG
(TO CYL MOTOR)
VM
M3
M2
M1
GND
HE−
HE+
VH
TH2901
TO DRIVE&INTERFACE
MOTOR REG
DEW
V.DET
CURRENT LIMIT
CAP ET
CAP R/S/F
CAP FG2
CAP FG1
REV MOTOR V1
REV MOTOR V2
REV MOTOR F/R
VM DOWN(L)
SYSCON5V
D6003 11ES1
QR6016 MRN1403
D6001 MA151K
D6004 MA151WK
NTSC ONLY
J6001
IC6002 MC14519F
PLAY/DEW
STOP1/PR
STOP2/S-
EJCT/VDE
QR6004 MRN1404
QR6001 MRN2404
QR6002 MRN2404
QR6003 MRN2402
Q6001 2SD893
Q6002 2SD973
D6005 MA151K
D6006 MA151K
X6001
Q6004 2SC2295
L6001 100U
TP6001 SERVICE
J6003 TEST
TP6002 GND
IC6005 AN3727S
VR6001 200K(B)
VR6002 MIJ1550
D6007 MIJ1550
D6008 MA151WK
ART V SP
ART V EP
SP REV
SP FW
EP REV
EP FW
IC6006 AN13935
IC6001 MN67431VCRK
IC6004 MN1280-R
L6002 100U
L6007 VLP0083
L6004 100U
VR6007 50K(B)
TP6003
CTL
PG SHIFT
TRACKENV
CAPET
FG1
CTL(−)
CTL(+)
IC6007 UPC358G
QR6007 MRN1404
QR6008 MRN1404
QR6006 MRN2404

ꓥN SERVO SPEED LOOP ⇦ CAPSTAN SERVO PHASE LOOP



SYSCON5V
TO DRIVE&INTERFACE
TPHOTO
SPHOTO
S.DATA
S.CLK
CTLPULSE
SREEL
A.MUTE
T.PHOTO 6/6
S.PHOTO 6/6
S.DATA 6/6
S.CLOCK 6/6
CTL PULSE 6/6
S.REEL PULSE 6/6
A.MUTE(H) 6/6
IC6010 AN13935
IC6011 MC14013BF
REV(L)
S.S.S(L)
P.OFF(H)
SENSGND
U.14V
REG12V
SYSCON 5V 6/6
SENSOR LED GND 6/6
UNREG 14V 6/6
REG 12V 6/6
P6003 VJP1229R
GND
FULL ERASE 12V
TO AUDIO
SW6002 VSS023710
SLP(H) 4/6
NOR.REC(H) 4/6
NOR.MUTE(H) 4/6
A.MODE.SEL(L) 4/6
F.NORMAL(H) 4/6
NOR.EE(H) 4/6
FM.MUTE(H) 4/6
FM H.SW 4/6
FM.EE(H) 4/6
D.FM REC (H) 4/6
FLYING E(H) 4/6
REC 12V(+B) 4/6
S.TAB 12V(+B) 4/6
VHS CAS(L) 4/6
TO VIDEO(Y)
SW6001 VSS023710
VSS 1/6
ENV SEL 1/6
EP(H) 1/6
H.AMP.SW 1/6
TRICK(L) 1/6
ART V 1/6
ROTARY 1/6
VIDEO EE(H) 1/6
H.SW 1/6
EX REC(L) 1/6
D.REC(H) 1/6
SSS(L) 1/6
TRACK ENV 1/6
VHSCAS(L) 1/6
IC6008 MN15522VDS
X6002 VSX0258
VDD VSS OSC1 OSC2 RST P50 P51 P00 P01 P02 P03 P23 P22 P41 P42 SBT SB0 SB1
REC(L) FLY.E FM D.REC D.REC H.SW REC ST LP(H) REEL T NTSC(H) REEL S
Q6003 2SD636
Q6005 2SB790-RS
Q6006 2SB793R-RS
Q6007 2SA1309
Q6008 MSD601
QR6009 MRN1404
QR6010 MRN1404
QR6011 MRN1404
QR6012 MRN2404
QR6013 MRN1404
QR6014 MRN2404
QR6015 MRN1404
QR6017 MRN1403
QR6019 MRN1404
D6009 MA151K
D6010 MA151WK
D6011 MA151WK
D6012 MA151K
HSW TP6004
TP6003
CTL
J6002 0 PAL ONLY
CTL(+)
CTL(-)
P2003 VJP1229T
CTL HEAD(+)
CTL HEAD(-)
JW6001W
JW6001R
CAPRSF
CURLIMT
REVV1
REVV2
REVF/R
ADUB(H)
INS(H)
EE(L)
MODESEL
FMHSW
PG SHIFT
FULL.E
D.A.REC
A.MUTE
MODESEL
ADUB(H)
INS(H)
FMHSW
TRACKENV
IC6007 UPC358G
IC6011 MC14013BF
P1502
GND
F.ERASE 12V
L1401 100μ
C1401 16V10
Z1401 EXQ7QF012Q
FE HEAD
C1403 0.033
Q1401 2SD636
C1402 4700P
33K
0.01
CR1401 EXED103Z333T
FE HEAD C.B.A.(VEP00K88C)
10
11
12
13
14
15

IC6001 (NM6743VCRK)



IC6001
MN67431VCRK
1 SUB SW
2 PLY/DEW
3 STOP2/S·TAB
4 STOP1/PAL: ST
5 EJECT/V.DET
6 AT SW TEST/NOR/SER
7 CAS SW
8 TEST
9 ENV SELECT
10 ROTARY SW
11 VDD
12 H.AMP SW
13 ART.V.MM
14 ART.V/H/N
15 SLW TR.MM
16 SLWTR.REF
17 T·PHOTO
18 S·PHOTO
19 REEL T
20 4H Ⓗ
21 SP Ⓗ
22 +5V (DAC)
23 CAP ET
24 CYL ET
25 TRACK ENV
26 VSS
27 CAP FG1
28 CAP FG2
29 GND (A)
30 IRE
31 PB CTL IN(−)
32 PB CTL IN(+)
33 IPZ
34 CTL(−)
35 CTL(+)
36 OCH
37 PB CTL
38 CLP
39 GND
40 AGC
41 PB CTL OUT
42 +5V (A)
43 CYL PFG
44 CYL.PG.MM
45 AUDIO H.SW
46 A MODE.SEL Ⓗ
47 AT LED Ⓗ
48 EDIT TRIG Ⓛ
49 PREROLL Ⓗ
50 REEL·S
51 FF/REW Ⓛ
52 V EE Ⓛ
53 INSERT Ⓗ
54 A.DUB Ⓗ
55 SLOW REVERSE Ⓗ
56 TAPE END Ⓛ / CAMPS
57 REV MOTOR F/R
58 REV MOTOR V2
59 REV MOTOR V1
60 HAED SW
61 CURRENT LIMIT
62 CAP R/S/F
63 S.CLOCK
64 S DATA
65 EX.D REC Ⓛ
66 D FM REC Ⓗ
67 D.A REC Ⓗ
68 FULL E Ⓗ
69 REC Ⓗ
70 C. EMPHA Ⓗ
71 A.MUTE Ⓗ
72 SOLE ON Ⓛ
73 S S S Ⓛ
74 VM DOWN Ⓛ
75 NTSC Ⓛ
76 SNS LED Ⓛ
77 LINE INPUT Ⓛ
78 TV/VTR
79 TRICK Ⓛ
80 P OFF Ⓗ
81 GND (D)
82 OSC1
83 OSC2
84 RST

SYSTEM CONTROL TRs DC VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	13.2	13.2	4.5	0	13.2	0	0.3	10.9	0.2	3.1	5.0	5.0	12.2	0.2	12.2	0.3	0.1	0.3
REC	13.0	13.0	4.2	0.1	13.0	0	0.3	10.9	0.4	—	—	—	12.2	12.1	11.4	12.1	12.0	11.4

REF. NO.	Q6007			Q6008			Q6009											
MODE	E	C	B	E	C	B	E	C	B									
STOP	0.2	0.3	0.2	1.8	5.0	2.3	0	13.4	0									
REC	12.1	12.0	11.4	1.8	5.0	2.3	0	13.3	0									

REF. NO.	QR6001			QR6002			QR6003			QR6004			QR6006			QR6007		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.0	0.3	5.0	0.3	0	4.9	5.0	0	5.0	0	0.4	4.8	5.0	0.4	4.8	0	0	5.0
REC	5.0	0.3	5.0	—	—	—	5.0	0	5.0	0	0.4	4.7	5.0	0.4	4.6	0	0	5.0

REF. NO.	QR6008			QR6009			QR6010			QR6011			QR6012			QR6013		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	5.0	0	0.1	0	0	0.2	0	0	0.2	0	5.0	2.4	0	0	4.4	0
REC	0	0	5.0	0	0.1	5.0	0	0.1	3.1	0	0.1	5.0	5.0	4.9	0	0	0	0

REF. NO.	QR6014			QR6015			QR6016			QR6017			QR6019					
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B			
STOP	4.9	−0.5	5.0	0	0	4.2	0	4.4	0	0	3.7	0	0	4.2	0			
REC	5.0	−0.4	5.0	0	3.1	0	0	0.1	3.6	0	0	0	0	0	5.0			

SYSTEM CONTROL ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0.2	5.0	0.4	4.7	5.0	0.1	0.1	0	4.9	5.0	0	0	0	0	2.5	3.1	3.0	0	0
REC	0	0	0.1	0	5.0	5.0	2.0	0	0.5	3.0	0	0	0	0	0	2.5	3.2	3.2	4.7	0

REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.0	5.0	0.1	4.2	0	2.5	2.5	2.5	0	2.5	2.4	2.6	4.9	0	0	0	2.5	2.5	0	2.4
REC	0	5.0	2.4	2.4	0.1	1.5	2.4	2.4	0	2.5	2.4	0	4.9	0	0	0	2.5	2.5	0	0

REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	2.4	0.1	0.1	0.1	0	5.0	0	5.0	0	4.7	0.1	0.1	0	0.1	5.0	0.1	5.0	5.0	0.1	0
REC	0	0	1.2	2.9	0	5.0	0	5.0	0	0	0	0	0	0	0	5.0	0	0	0	2.4

REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0.1	2.0	4.5	1.5	0	0	0	0	0	0	5.0	5.0	5.0	4.9	5.0	4.7	0	0	5.0	0.1
REC	0	0	4.5	1.5	5.0	5.0	5.0	5.0	5.0	0	0	0	5.0	0	0	4.6	5.0	5.0	5.0	0.1

REF. NO.	IC6001																			
MODE	81	82	83	84																
STOP	0	2.4	2.4	5.0																
REC	0	2.4	2.4	4.9																

REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0.6	5.0	0	5.0	5.0	0	5.0	0	0.4	4.8	0	0	0.2	4.7	5.0	5.0				
REC	0.6	5.0	0	5.0	0	0	5.0	0	0	5.0	0.4	0.4	0	0	0	5.0				

REF. NO.	IC6004																			
MODE	1	2	3																	
STOP	5.1	5.1	0																	
REC	5.1	5.1	0																	

REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8												
STOP	2.7	5.0	0	0	0	5.0	0	5.1												
REC	0	5.0	0	0	0	5.0	0	0												

REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8												
STOP	4.7	0.2	2.6	0	2.3	4.6	0	5.0												
REC	0	2.5	1.3	0	2.4	0	2.3	5.0												

REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8												
STOP	2.5	2.5	2.5	0	0	0	3.7	5.0												
REC	2.5	2.5	2.5	0	0	0	3.7	5.0												

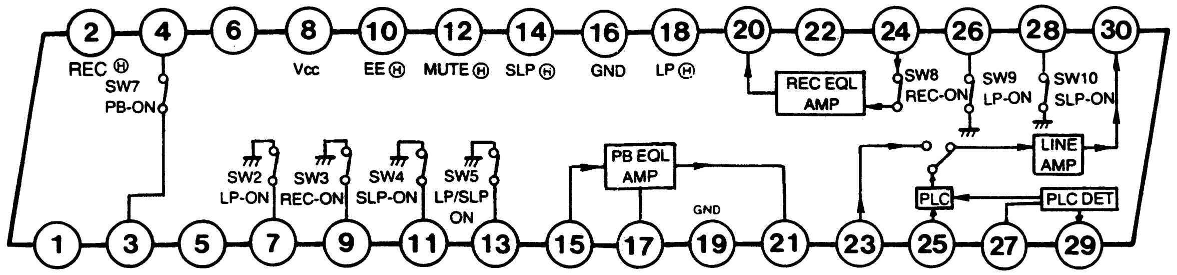
REF. NO.	IC6008																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	4.9	4.5	0	1.2	0	0	0	0	0	0	0	0	0	4.9	4.7	0	0	0	0	0
REC	4.9	4.5	2.9	1.4	0	0	0	0	0	0	2.1	5.0	0.1	5.0	2.3	2.3	0	0	4.9	4.8

REF. NO.	IC6008																			
MODE	21	22	23	24	25	26	27	28												
STOP	0	4.9	4.9	4.9	5.0	2.0	2.4	0												
REC	0	0	4.9	4.9	—	2.0	0	0												

REF. NO.	IC6010																			
MODE	1	2	3	4	5	6	7	8												
STOP	4.2	2.8	2.9	0	2.9	2.8	4.5	5.0												
REC	5.0	2.8	3.2	0	3.2	2.8	5.0	5.0												

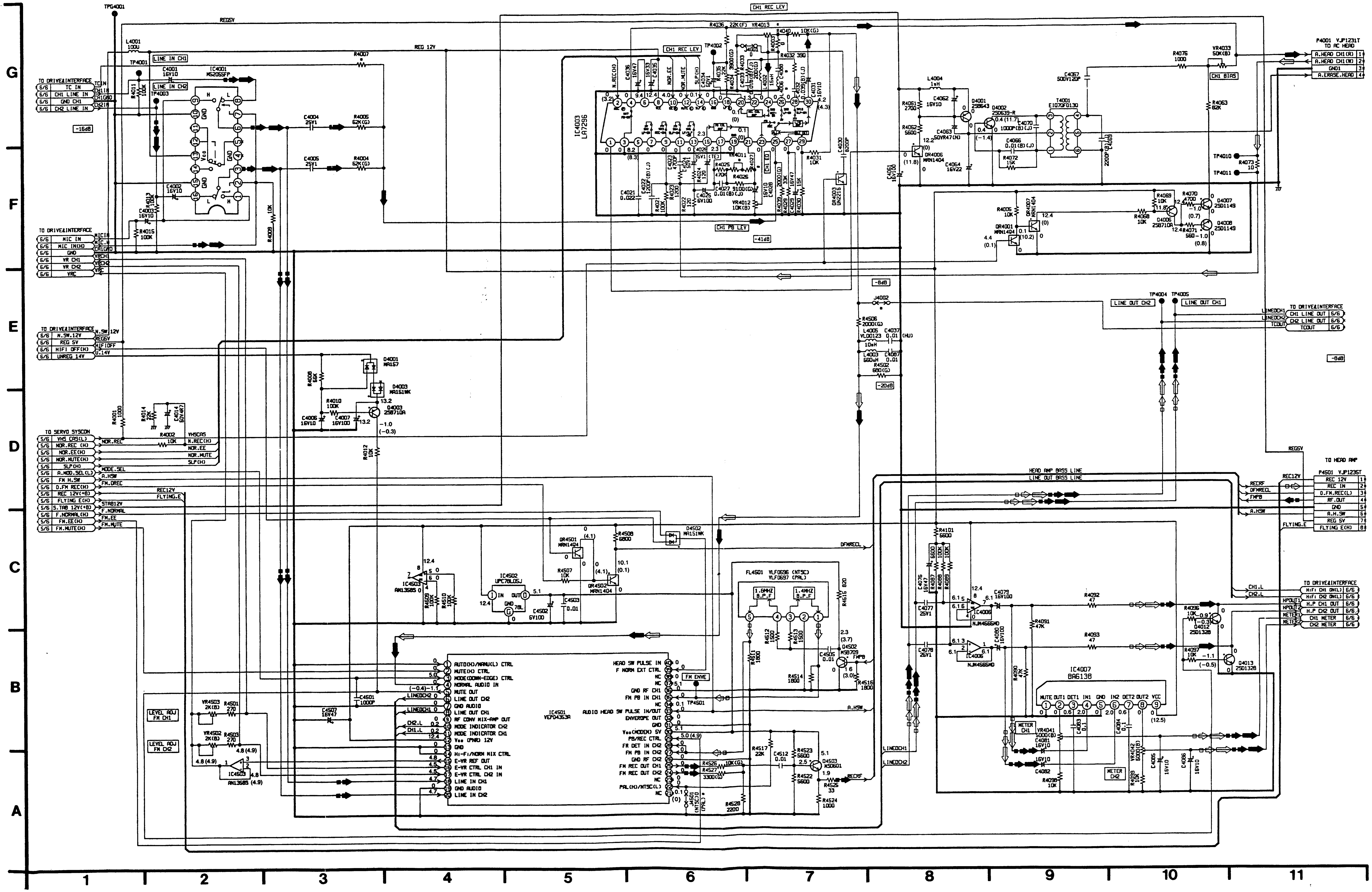
REF. NO.	IC6011																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0	5.0	4.6	0	4.5	0	0	0	4.5	0	4.7	5.0	0.1	5.0						
REC	5.0	0	4.6	0	4.5	0	0	0	4.5	0	4.6	0	5.0	5.0						

IC4003 (LA7296)



AUDIO SCHEMATIC DIAGRAM

- ◀ NORMAL AUDIO MAIN SIGNAL PATH IN REC MODE
- ◁ NORMAL AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
- ◀■ Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE
- ◁□ Hi-Fi AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
TPG4001
REG5V
REG 12V
L4001 100U
TP4001
LINE IN CH1
LINE IN CH2
IC4001 M5205SFP
TO DRIVE&INTERFACE
TC IN
CH1 LINE IN
GND CH1
CH2 LINE IN
-16dB
C4004 25V1
C4005 25V1
R4005 62K(G)
R4004 62K(G)
R4007
MIC IN
MIC IN(H)
GND
VR CH1
VR CH2
VRC
N.SW.12V
REG 5V
HIFI OFF(H)
UNREG 14V
TO SERVO SYSCON
VHS CRS(L)
NOR.REC (H)
NOR.EE(H)
NOR.MUTE(H)
SLP(H)
A.MOD.SEL(L)
FM H.SW
D.FM REC(H)
REC 12V(+B)
FLYING E(H)
S.TAB 12V(+B)
F.NORMAL(H)
FM.EE(H)
FM.MUTE(H)
CH1 REC LEV
IC4003 LA7296
CH1 PB LEV
-41dB
-8dB
-20dB
J4002
D4001 MA157
D4003 MA151WK
Q4003 2SB710A
IC4502 UPC78L05J
IC4503 AN1358S
IC4501 YEP0435A
FM ENVE
TP4501
D4502 MA151WK
FL4501 YLF0696 (NTSC) YLF0697 (PAL)
1.6MHZ B.P.F
1.4MHZ B.P.F
Q4502 MSB709
Q4503 MSD601
LEVEL ADJ FM CH1
LEVEL ADJ FM CH2
VR4503 2K(B)
VR4502 2K(B)
L4004 1mH
Q4001 2SB643
Q4002 2SD639-R
T4001 EI070F0130
C4067 500V120P
R4076 1000
VR4033 50K(B)
CH1 BIAS
P4001 VJP1231T TO AC HEAD
A.HEAD CH1(R)
A.HEAD CH1(W)
GND1
A.ERASE.HEAD
TP4010
TP4011
Q4007 2SD1149
Q4008 2SD1149
Q4006 2SB710A
TP4004
TP4005
LINE OUT CH2
LINE OUT CH1
CH1 LINE OUT
CH2 LINE OUT
TCOUT
HEAD AMP BASS LINE
LINE OUT BASS LINE
TO HEAD AMP
P4501 VJP1236T
REC 12V
REC IN
D.FM.REC(L)
RF.OUT
GND
A.H.SW
REG 5V
FLYING.E(H)
IC4006 NJM4565MD
IC4007 BA6138
METER CH1
METER CH2
VR4041 5000(B)
VR4042 5000(B)
Q4012 2SD1328
Q4013 2SD1328
HiFi CH1 OUT(L)
HiFi CH2 OUT(L)
H.P CH1 OUT
H.P CH2 OUT
CH1 METER
CH2 METER

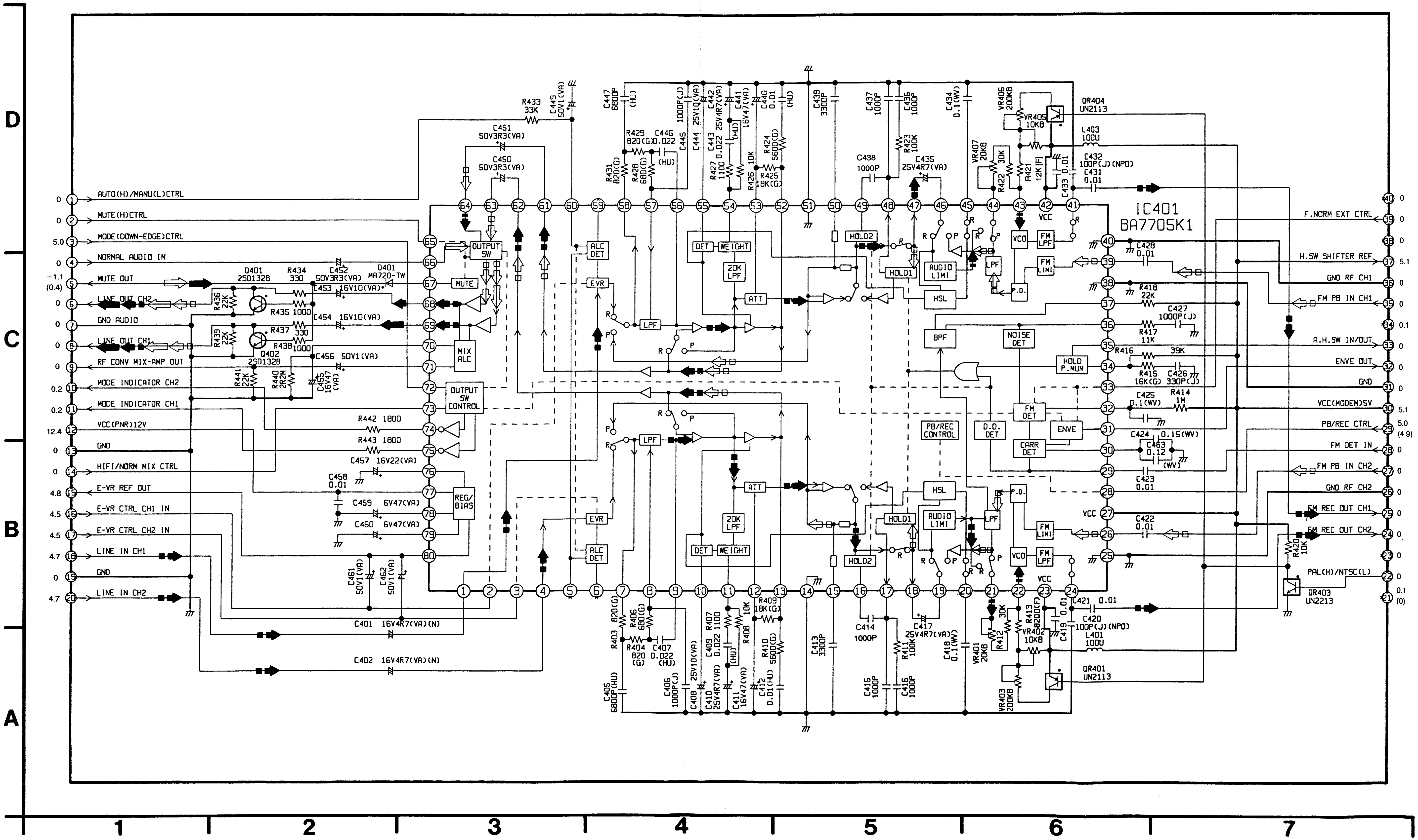
FM AUDIO PACK SCHEMATIC DIAGRAM

⬅ NORMAL AUDIO MAIN SIGNAL PATH IN REC MODE

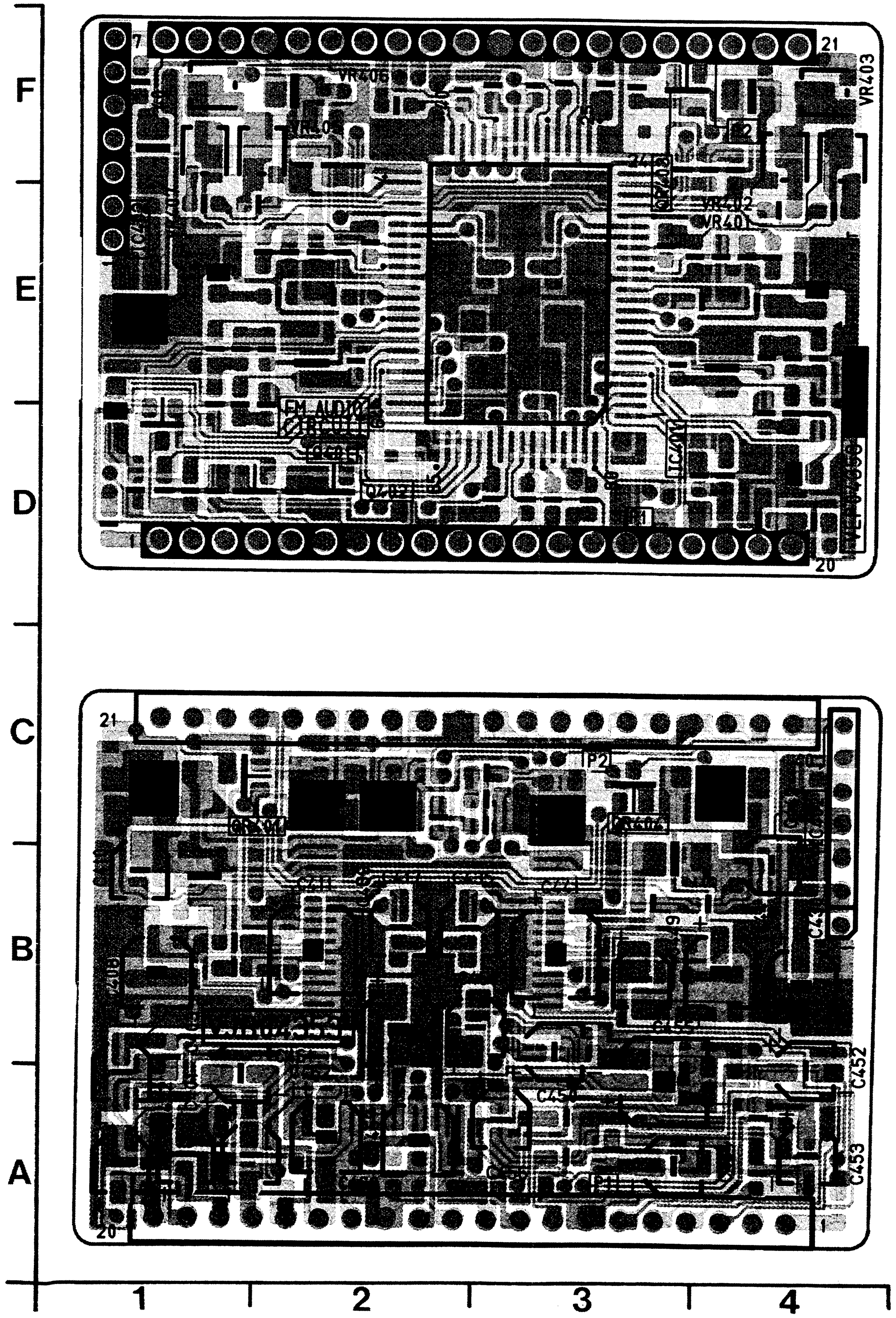
⇦ NORMAL AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

⬅■ Hi-Fi AUDIO MAIN SIGNAL PATH IN REC MODE

⇦□ Hi-Fi AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


D
C
B
A
1
2
3
4
5
6
7
IC401
BA7705K1
AUTO(H)/MANU(L)CTRL
MUTE(H)CTRL
MODE(DOWN-EDGE)CTRL
NORMAL AUDIO IN
MUTE OUT
LINE OUT CH2
GND AUDIO
LINE OUT CH1
RF CONV MIX-AMP OUT
MODE INDICATOR CH2
MODE INDICATOR CH1
VCC(PNR)12V
GND
HIFI/NORM MIX CTRL
E-VR REF OUT
E-VR CTRL CH1 IN
E-VR CTRL CH2 IN
LINE IN CH1
GND
LINE IN CH2
F.NORM EXT CTRL
H.SW SHIFTER REF
GND RF CH1
FM PB IN CH1
A.H.SW IN/OUT
ENVE OUT
GND
VCC(MODEM)5V
PB/REC CTRL
FM DET IN
FM PB IN CH2
GND RF CH2
FM REC OUT CH1
FM REC OUT CH2
PAL(H)/NTSC(L)
Q401 2SD1328
Q402 2SD1328
D401 MA720-TW
QR401 UN2113
QR403 UN2213
QR404 UN2113
OUTPUT SW
MUTE
MIX ALC
OUTPUT SW CONTROL
REG/ BIAS
ALC DET
EVR
LPF
DET
WEIGHT
20K LPF
ATT
HOLD1
HOLD2
HSL
AUDIO LIMI
BPF
NOISE DET
HOLD P.MUN
FM DET
ENVE
CARR DET
D.O. DET
PB/REC CONTROL
VCO
FM LPF
FM LIMI
P.D.
VCC
R433 33K
C449 50V1(VA)
C451 50V3R3(VA)
C450 50V3R3(VA)
C452 50V3R3(VA)
C453 16V10(VA)
C454 16V10(VA)
C456 50V1(VA)
C455 16V47 (VA)
R434 330
R435 1000
R436 22K
R437 330
R438 1000
R439 22K
R440 2R2M
R441 22K
R442 1800
R443 1800
C457 16V22(VA)
C458 0.01
C459 6V47(VA)
C460 6V47(VA)
C461 50V1(VA)
C462 50V1(VA)
C401 16V4R7(VA)(N)
C402 16V4R7(VA)(N)
C447 6800P (HU)
R429 820(G)
C446 0.022 (HU)
R431 820(G)
R428 680(G)
C445 1000P(J)
C444 25V10(VA)
C443 0.022 (HU)
C442 25V4R7(VA)
R427 1100
C441 16V47(VA)
R426 10K
C440 0.01 (HU)
R424 5600(G)
R425 18K(G)
C439 3300P
C437 1000P
C436 1000P
C438 1000P
R423 100K
C435 25V4R7(VA)
C434 0.1(WV)
VR407 20KB
R422 30K
VR406 200KB
VR405 10KB
R421 12K(F)
C433 0.01
L403 100U
C432 100P(J)(NPO)
C431 0.01
C428 0.01
R418 22K
C427 1000P(J)
R417 11K
R416 39K
R415 16K(G)
C426 330P(J)
C425 0.1(WV)
R414 1M
C424 0.15(WV)
C463 0.12 (WV)
C423 0.01
C422 0.01
R420 10K
C421 0.01
C420 100P(J)(NPO)
L401 100U
R413 8200(F)
VR402 10KB
C419 0.01
R412 30K
VR401 20KB
VR403 200KB
C418 0.1(WV)
C417 25V4R7(VA)
R411 100K
C414 1000P
C415 1000P
C416 1000P
C413 3300P
R409 18K(G)
R410 5600(G)
R408 10K
C412 0.01(HU)
C411 16V47(VA)
C409 0.022 (HU)
R407 1100
C410 25V4R7(VA)
C408 25V10(VA)
C407 0.022 (HU)
C406 1000P(J)
R404 820 (G)
R406 680(G)
R403 820(G)
C405 6800P(HU)

FM AUDIO PACK C.B.A. (VEP04353A)



FM AUDIO PACK C.B.A.

Transistor	
Q401	D-2Ⓕ
Q402	D-2Ⓕ

Transistor & Resistor	
QR401	C-1Ⓒ
QR403	E-3Ⓕ
QR404	C-3Ⓒ

Integrated Circuit	
IC401	D-3Ⓕ
IC402	C-4Ⓒ

Adjustment	
VR401	E-3Ⓕ
VR402	E-3Ⓕ
VR403	F-4Ⓕ
VR405	F-2Ⓕ
VR406	F-2Ⓕ
VR407	E-1Ⓕ

Connector	
P401	A-3Ⓒ
P402	C-3Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

MAIN C.B.A. <VIDEO SECTION>

Transistor	
Q3001	C-13Ⓕ
Q3002	D-12Ⓕ
Q3003	E-21Ⓒ
Q3004	D-13Ⓕ
Q3005	C-20Ⓒ
Q3006	C-20Ⓒ
Q3008	D-13Ⓕ
Q3009	E-12Ⓕ
Q3010	E-12Ⓕ
Q3011	E-12Ⓕ
Q3012	C-12Ⓕ
Q3014	D-19Ⓒ
Q3015	E-11Ⓕ
Q3016	E-10Ⓕ
Q3017	E-10Ⓕ
Q3018	F-10Ⓕ
Q3019	F-10Ⓕ
Q3020	B-19Ⓒ
Q3021	E-11Ⓕ
Q3022	E-10Ⓕ
Q3023	C-19Ⓒ
Q3024	E-20Ⓒ
Q3025	E-11Ⓕ
Q3026	E-13Ⓕ
Q3301	D-14Ⓕ
Q3302	E-22Ⓒ
Q3303	C-14Ⓕ
Q3304	C-14Ⓕ
Q3305	D-13Ⓕ
Q3306	D-14Ⓕ
Q3307	D-22Ⓒ
Q3308	F-21Ⓒ
Q3309	F-22Ⓒ
Q3310	D-14Ⓕ
Q3311	B-12Ⓕ
Q3312	C-12Ⓕ
Q3313	C-13Ⓕ
Q3314	E-21Ⓒ
Q3315	E-21Ⓒ
Q3316	B-13Ⓕ
Q3318	B-13Ⓕ
Q3319	F-21Ⓒ
Q3320	B-13Ⓕ
Q3321	F-20Ⓒ
Q3322	F-21Ⓒ
Q3323	G-21Ⓒ
Q3324	F-21Ⓒ
Q3325	F-20Ⓒ
Q3326	B-12Ⓕ
Q3327	F-20Ⓒ
Q3801	G-11Ⓕ
Q3804	F-12Ⓕ
Q3805	F-12Ⓕ
Q3806	F-13Ⓕ
Q3807	F-13Ⓕ

Transistor & Resistor	
QR3001	D-13Ⓕ
QR3002	D-11Ⓕ
QR3003	D-11Ⓕ
QR3004	D-11Ⓕ
QR3005	E-19Ⓒ
QR3006	D-11Ⓕ
QR3007	D-12Ⓕ
QR3008	C-19Ⓒ
QR3009	C-12Ⓕ
QR3010	D-11Ⓕ
QR3301	F-22Ⓒ
QR3302	G-20Ⓒ
QR3303	E-21Ⓒ
QR3304	B-12Ⓕ
QR3305	C-13Ⓕ
QR3306	G-21Ⓒ
QR3307	E-21Ⓒ
QR3606	A-20Ⓒ
QR3611	C-20Ⓒ
QR3802	E-11Ⓕ
QR3803	F-11Ⓕ
QR3804	B-21Ⓒ
QR3805	E-11Ⓕ
QR3807	G-12Ⓕ
QR3808	B-20Ⓒ
QR3809	G-11Ⓕ
QR3810	F-11Ⓕ
QR3813	F-11Ⓕ
QR3814	F-12Ⓕ
QR3816	G-11Ⓕ

Integrated Circuit	
IC3001	B-18Ⓒ
IC3002	E-21Ⓒ
IC3003	E-12Ⓕ
IC3005	D-20Ⓒ
IC3006	E-19Ⓒ
IC3007	D-20Ⓒ
IC3008	D-19Ⓒ
IC3009	C-18Ⓒ
IC3010	C-19Ⓒ
IC3011	D-21Ⓒ
IC3301	E-22Ⓒ
IC3302	E-22Ⓒ
IC3303	F-21Ⓒ
IC3304	B-13Ⓕ
IC3305	F-22Ⓒ
IC3306	F-22Ⓒ
IC3307	E-22Ⓒ
IC3801	B-19Ⓒ
IC3802	B-20Ⓒ
IC3803	F-13Ⓕ
IC3804	G-12Ⓕ

Test Point	
TP3002	C-20Ⓒ
TP3003	E-20Ⓒ
TP3004	E-21Ⓒ
TP3005	F-20Ⓒ
TP3006	C-20Ⓒ
TP3301	F-20Ⓒ
TP3302	F-21Ⓒ
TP3303	F-22Ⓒ
TP3304	E-22Ⓒ
TP3305	E-20Ⓒ
TP3306	F-21Ⓒ
TP3307	F-22Ⓒ
TP3308	F-21Ⓒ
TP3309	D-22Ⓒ
TP3310	E-22Ⓒ
TP3311	E-22Ⓒ
TP3801	B-19Ⓒ
TP3802	B-19Ⓒ
TP3803	B-20Ⓒ
TP3804	B-20Ⓒ
TP3805	B-19Ⓒ
TP3806	B-18Ⓒ
TPG3001	B-20Ⓒ
TPG3301	D-22Ⓒ

Adjustment	
VR3001	D-13Ⓕ
VR3002	D-12Ⓕ
VR3003	B-13Ⓕ
VR3005	E-12Ⓕ
VR3006	E-12Ⓕ
VR3007	E-12Ⓕ
VR3008	E-11Ⓕ
VR3009	C-11Ⓕ
VR3010	D-11Ⓕ
VR3011	F-10Ⓕ
VR3301	B-14Ⓕ
VR3302	B-12Ⓕ
VR3303	C-12Ⓕ
VR3304	C-13Ⓕ
VR3305	B-12Ⓕ
VR3306	C-13Ⓕ
VR3801	G-11Ⓕ
VR3802	F-13Ⓕ

Connector	
P3301	G-21Ⓒ
P3002	G-21Ⓒ
P6007	F-22Ⓒ
P3001	E-21Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

MAIN C.B.A. <SYSTEM CONTROL & SERVO SECTION>

Transistor	
Q6001	B-18Ⓒ
Q6002	C-18Ⓒ
Q6003	F-18Ⓒ
Q6004	F-9Ⓕ
Q6005	D-17Ⓒ
Q6006	D-17Ⓒ
Q6007	D-17Ⓒ
Q6008	B-16Ⓒ
Q6201	B-9Ⓕ
Q6202	B-9Ⓕ
Q6203	B-11Ⓕ
Q6204	G-20Ⓒ
Q6205	D-18Ⓒ
Q6206	D-18Ⓒ

Transistor & Resistor	
QR6001	F-9Ⓕ
QR6002	B-17Ⓒ
QR6003	B-18Ⓒ
QR6004	D-9Ⓕ
QR6006	B-10Ⓕ
QR6007	G-8Ⓕ
QR6008	F-8Ⓕ
QR6009	G-9Ⓕ
QR6010	E-9Ⓕ
QR6011	D-9Ⓕ
QR6012	E-9Ⓕ
QR6013	C-17Ⓒ
QR6014	E-9Ⓕ
QR6015	E-9Ⓕ
QR6016	B-10Ⓕ
QR6017	E-9Ⓕ
QR6019	E-9Ⓕ
QR6201	B-9Ⓕ
QR6205	C-10Ⓕ
QR6207	F-17Ⓒ

Integrated Circuit	
IC6001	F-9Ⓕ
IC6002	D-18Ⓒ
IC6004	C-17Ⓒ
IC6005	C-16Ⓒ
IC6006	D-18Ⓒ
IC6007	G-8Ⓕ
IC6008	C-18Ⓒ
IC6010	B-10Ⓕ
IC6011	B-10Ⓕ
IC6201	E-17Ⓒ
IC6202	E-18Ⓒ
IC6203	B-8Ⓕ
IC6204	C-9Ⓕ
IC6205	B-11Ⓕ
IC6206	B-10Ⓕ

Test Point	
TP6001	B-18Ⓒ
TP6002	B-18Ⓒ
TP6003	B-16Ⓒ
TP6004	C-16Ⓒ
TP6203	G-21Ⓒ

Adjustment	
VR6001	F-8Ⓕ
VR6002	F-8Ⓕ
VR6003	F-8Ⓕ
VR6004	F-8Ⓕ
VR6005	F-8Ⓕ
VR6006	F-8Ⓕ
VR6007	F-8Ⓕ

Connector	
P2001	F-18Ⓒ
P2002	F-19Ⓒ
P2003	G-20Ⓒ
P6001	F-18Ⓒ
P6002	G-19Ⓒ
P6003	G-20Ⓒ
P6004	F-18Ⓒ
P6005	G-19Ⓒ
P6007	F-22Ⓒ
P6201	G-18Ⓒ
P6202	G-18Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

MAIN C.B.A. <AUDIO SECTION>

Transistor	
Q4001	G-16Ⓒ
Q4002	G-16Ⓒ
Q4003	D-8Ⓕ
Q4006	F-16Ⓒ
Q4007	B-8Ⓕ
Q4008	B-8Ⓕ
Q4012	D-8Ⓕ
Q4013	D-8Ⓕ
Q4502	E-8Ⓕ
Q4503	E-8Ⓕ

Transistor & Resistor	
QR4001	B-7Ⓕ
QR4003	F-16Ⓒ
QR4006	G-16Ⓒ
QR4007	B-8Ⓕ
QR4501	D-8Ⓕ
QR4502	D-8Ⓕ

Integrated Circuit	
IC4001	C-8Ⓕ
IC4003	F-16Ⓒ
IC4006	D-8Ⓕ
IC4007	E-16Ⓒ
IC4501	E-16Ⓒ
IC4502	C-16Ⓒ
IC4503	E-8Ⓕ

Test Point	
TP4001	E-16Ⓒ
TP4002	F-16Ⓒ
TP4003	E-16Ⓒ
TP4004	C-16Ⓒ
TP4005	C-16Ⓒ
TP4010	G-16Ⓒ
TP4011	F-16Ⓒ
TP4501	D-17Ⓒ
TPG4001	C-8Ⓕ

Adjustment	
VR4011	C-7Ⓕ
VR4012	C-7Ⓕ
VR4013	C-8Ⓕ
VR4033	F-16Ⓒ
VR4041	C-8Ⓕ
VR4042	C-8Ⓕ
VR4502	E-8Ⓕ
VR4503	E-8Ⓕ

Connector	
P4001	G-16Ⓒ
P4501	G-16Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

CYLINDER DRIVE C.B.A., MECHANISM CONNECTION C.B.A., FG AMP C.B.A., FE HEAD C.B.A., PHOTO TR (S) C.B.A., PHOTO TR (T) C.B.A.

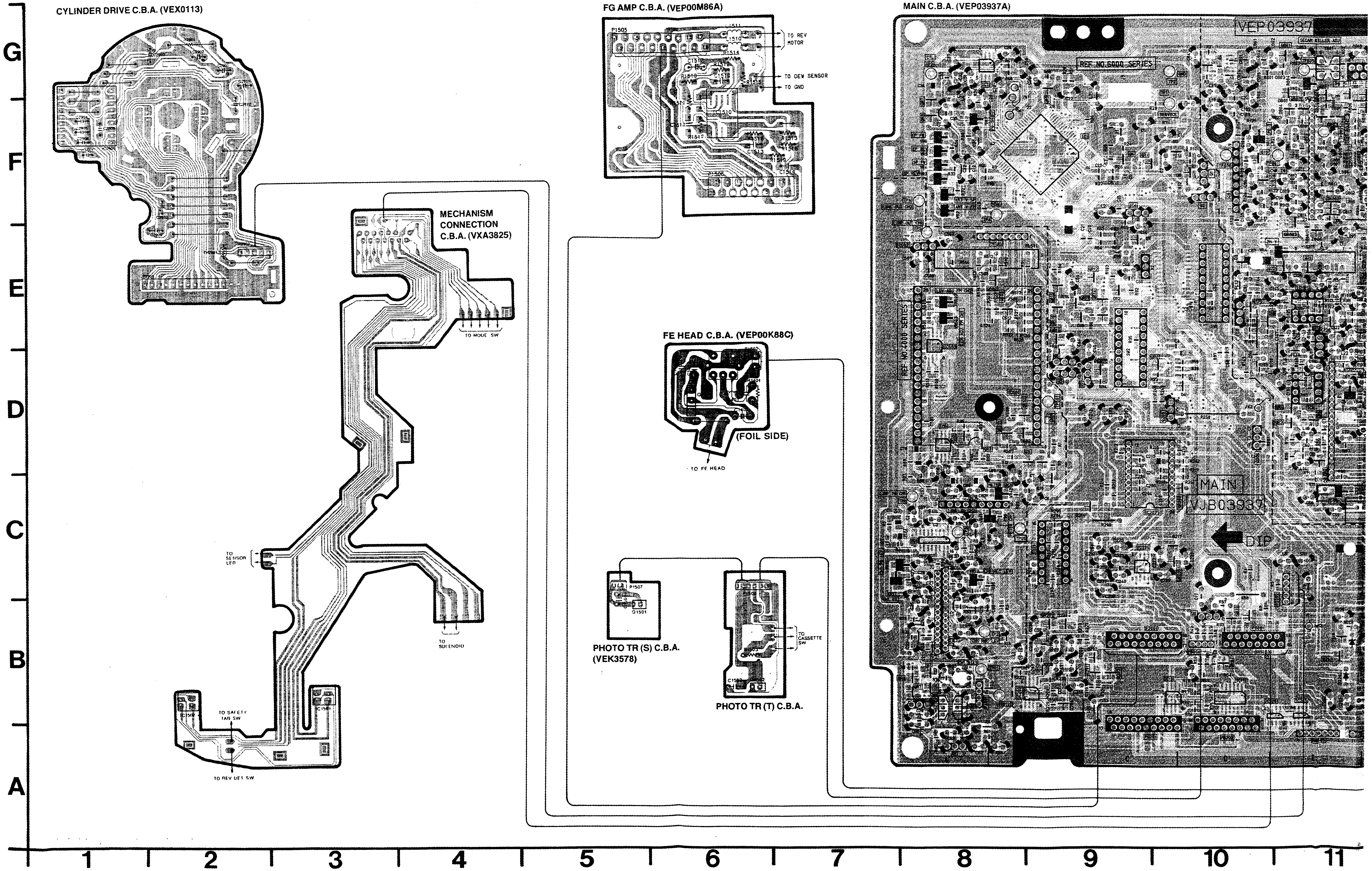
Transistor	
Q1401	D-6
Q1501	B-5
Q1502	B-6

Integrated Circuit	
IC1501	B-3
IC1502	B-2
IC1510	F-6
IC2901	F-1

Connector	
P1502	D-6
P1504	E-3
P1505	G-5
P1506	F-6
P1507	C-5
P1508	C-6
P2901	E-1
P2902	E-2

ADDRESS INFORMATION

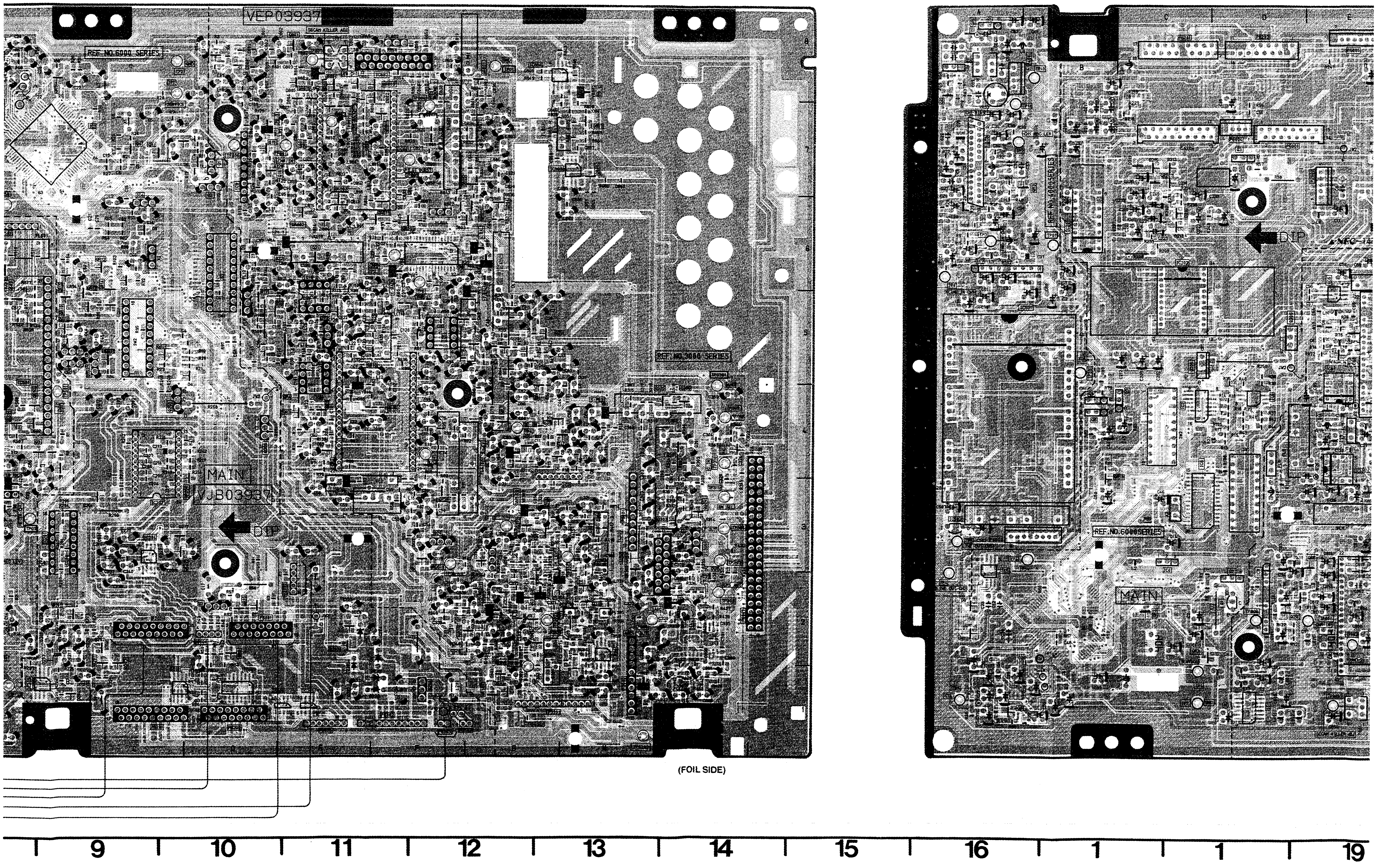
MAIN C.B.A. (VEP03937A), MECHANISM CONNECTION C.B.A. (VXA3825,) CYLINDER DRIVE C.B.A. (VEX0113), PHOTO TR (S) C.B.A. (VEK3578), PHOT



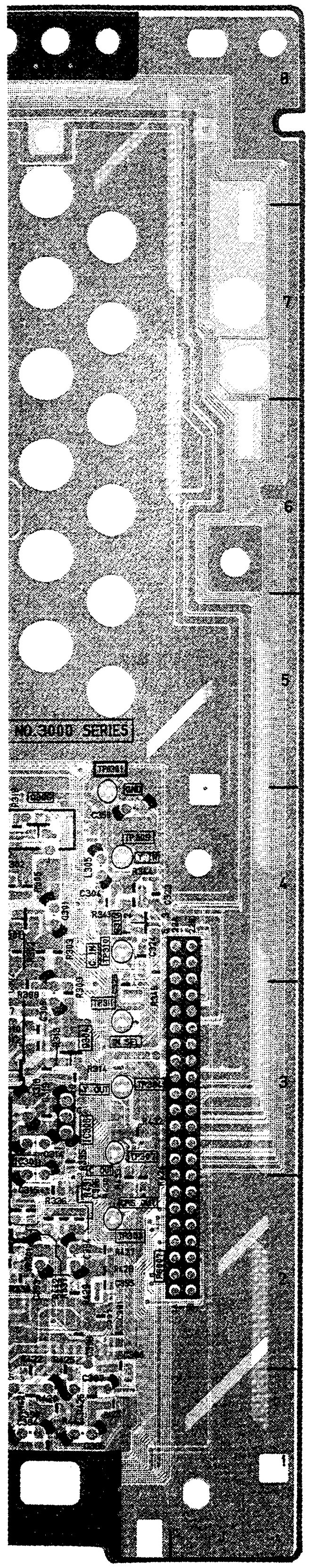
CYLINDER DRIVE C.B.A. (VEX0113)
FG AMP C.B.A. (VEP00M86A)
MAIN C.B.A. (VEP03937A)
P1505
TO REV MOTOR
TO DEW SENSOR
TO GND
P1506
MECHANISM CONNECTION C.B.A. (VXA3825)
TO MODE SW
FE HEAD C.B.A. (VEP00K88C)
(FOIL SIDE)
TO FE HEAD
TO SENSOR LED
TO SOLENOID
TO SAFETY TAB SW
TO REV DET SW
P1507
Q1501
PHOTO TR (S) C.B.A. (VEK3578)
TO CASSETTE SW
PHOTO TR (T) C.B.A.
VEP03937
SECAM KILLER ADJ
REF NO 6000 SERIES
REF NO 4000 SERIES
MAIN
VJB03937
DIP
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

), PHOTO TR (S) C.B.A. (VEK3578), PHOTO TR (T) C.B.A., FE HEAD C.B.A. (VEP00K88C)

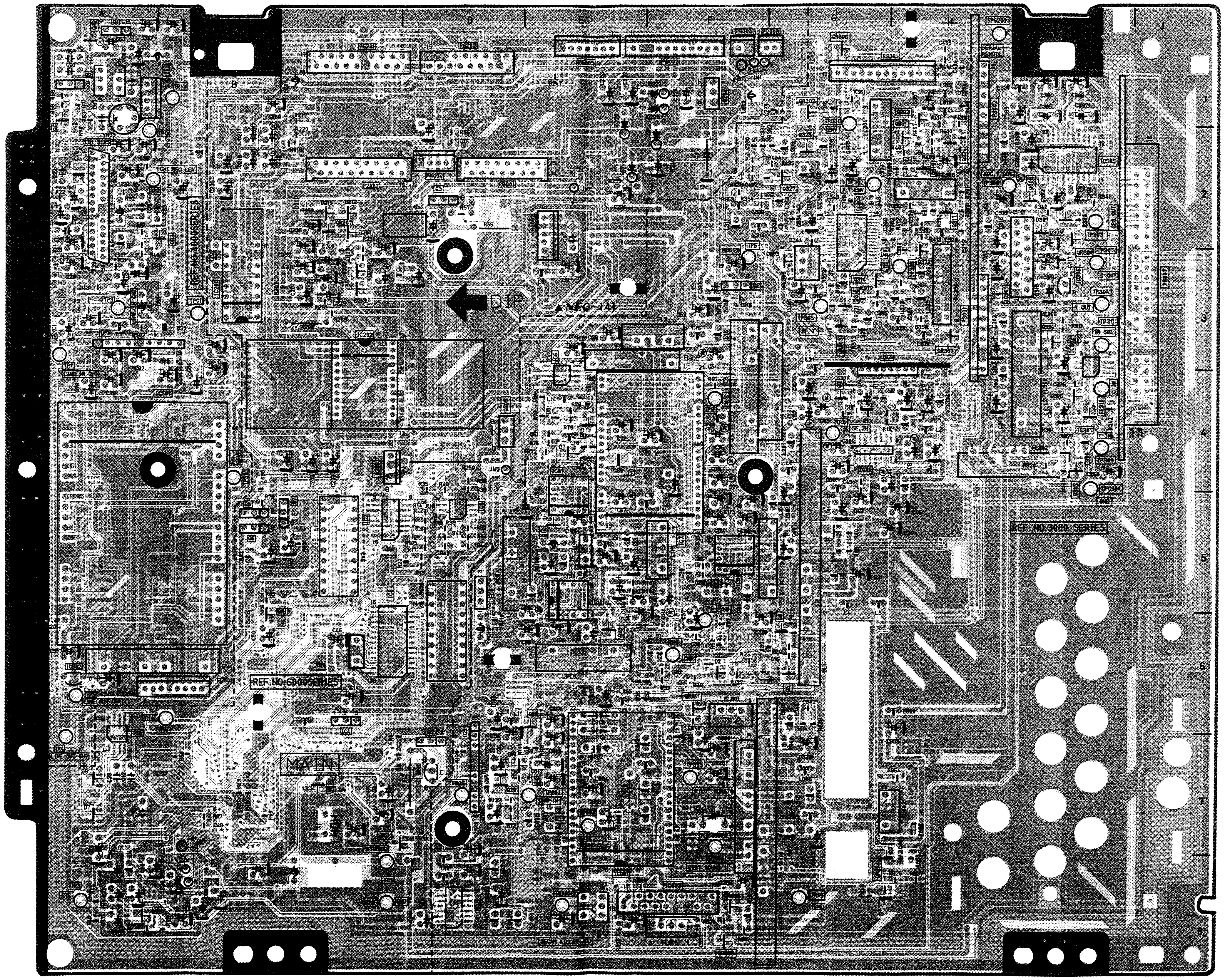
37A)


VEP03937
REF.NO.6000 SERIES
SECAM KILLER ADJ
REF.NO.3000 SERIES
MAIN
VJB03937
D11
DIP
REF.NO.6000SERIES
MAIN
(FOIL SIDE)
9
10
11
12
13
14
15
16
1
1
19

(VEP00K88C)


REF. NO. 3000 SERIES

(FOIL SIDE)


REF. NO. 4000 SERIES
DIP
REF. NO. 6000 SERIES
MAIN
REF. NO. 3000 SERIES

(COMPONENT SIDE)

14 15 16 1 1 19 20 2 22 23

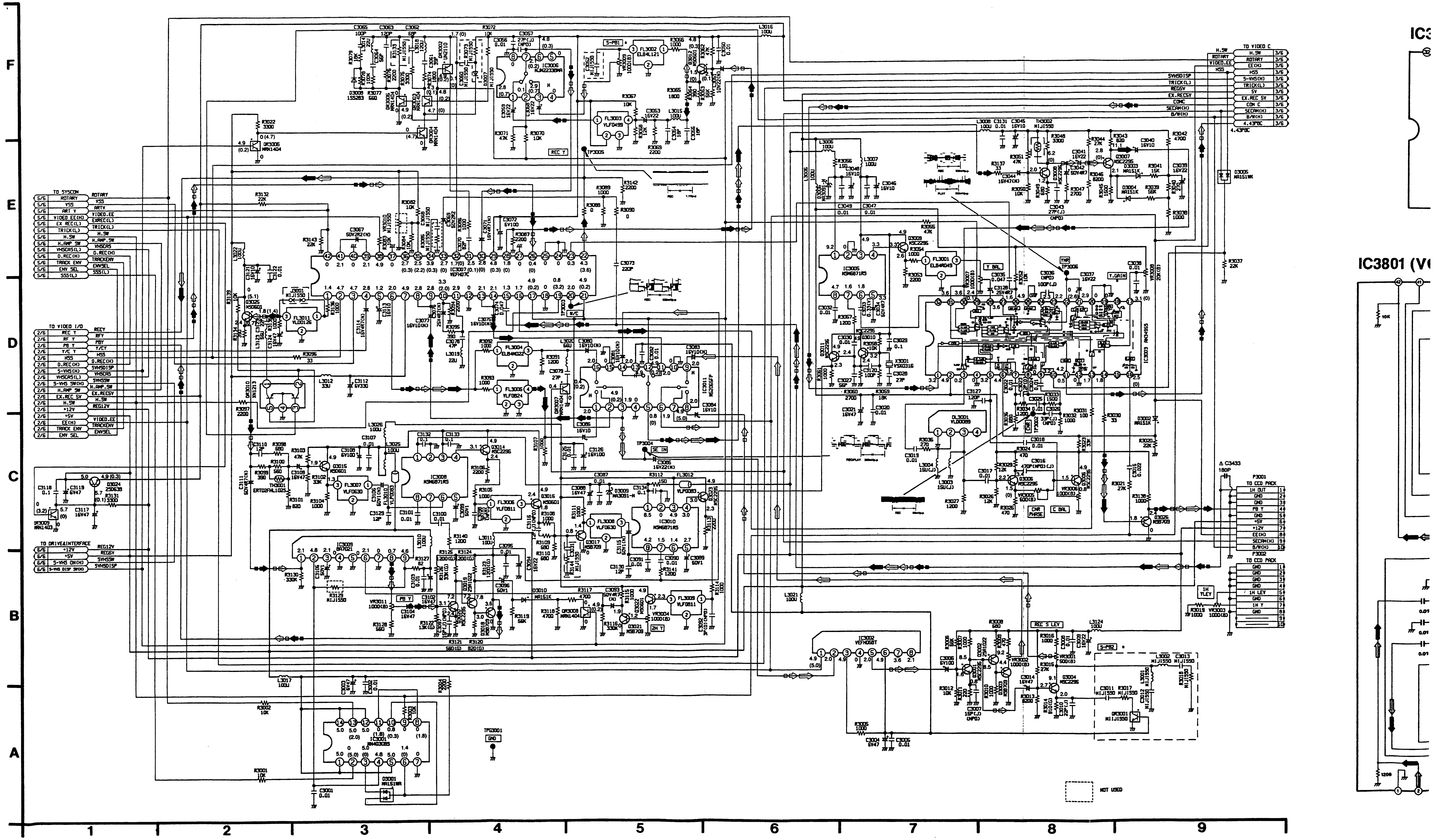
VIDEO Y SCHEMATIC DIAGRAM

◀■ MAIN SIGNAL PATH IN REC MODE (VHS)

◁ MAIN SIGNAL PATH IN REC MODE (S-VHS)

◀■ ■ MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)

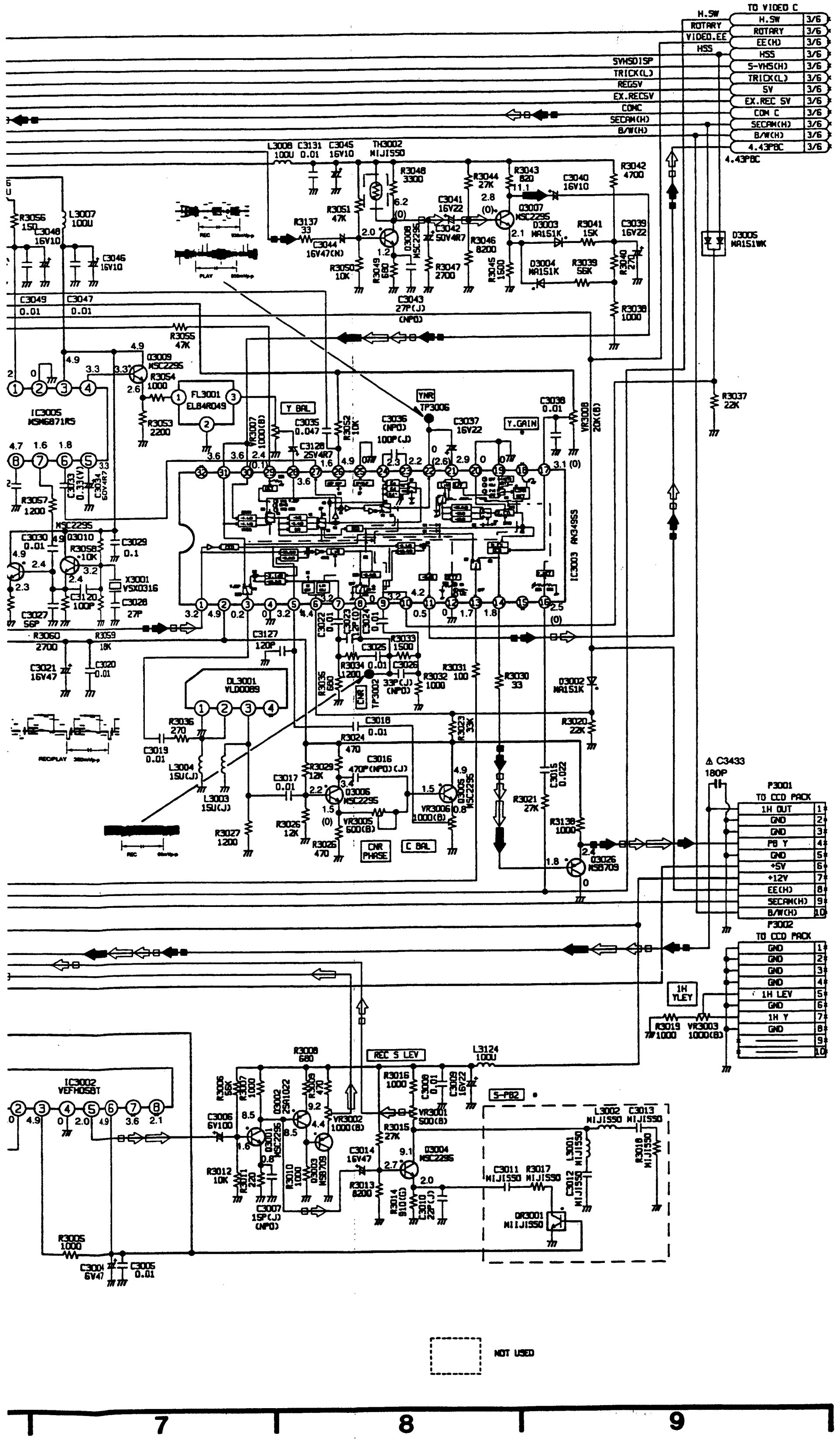
◁□ MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
TO SYSCON
TO VIDEO I/O
TO DRIVE&INTERFACE
TO VIDEO C
TO CCD PACK
IC3005 KSM6871R5
IC3006 RJK2233BHA
IC3007 VEFH07C
IC3008 KSM6871R5
IC3009 BA7021
IC3010 KSM6871R5
IC3011 MN3205FP
IC3001 NN4030BS
IC3002 VEFH058T
IC3003 AN3495S
IC3
IC3801 (V
P3001
P3002
TP3005
TP3006
TP3004
TPG3001
GND
NOT USED
S-PB1
S-PB2
REC Y
REC S LEV
PB Y
2H Y
SE IN
Y BAL
Y GAIN
CNR PHASE
C BAL
1H TLEY

◀■■ MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)

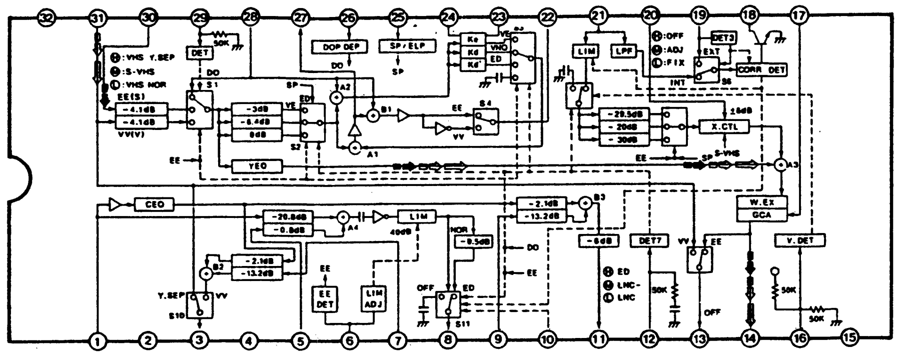
S) ◁□□ MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)

VIDEO C SCHEMATIC DIAGRAM

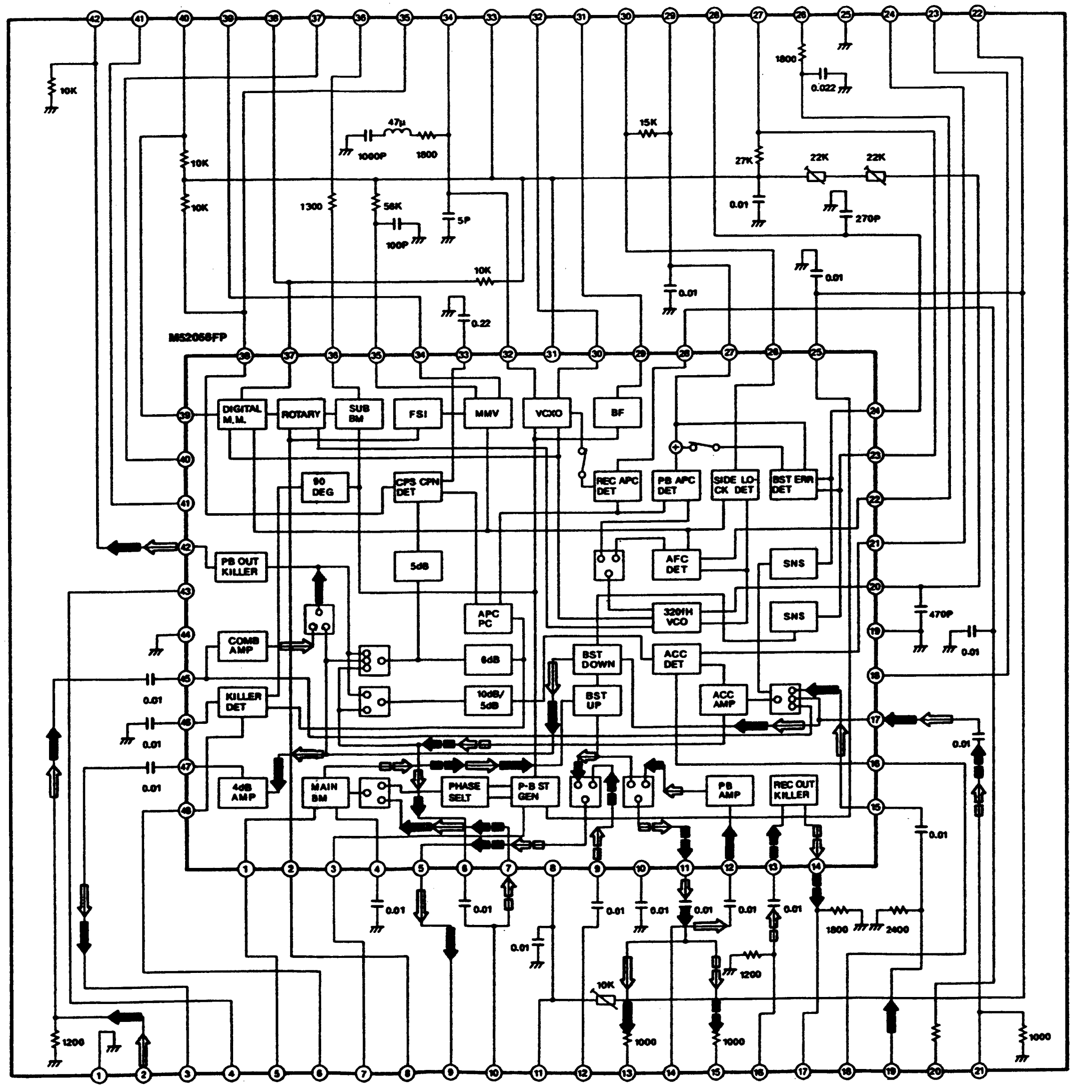


TO VIDEO C
H.SW
ROTARY
VIDEO.EE
HSS
SVHSDISP
TRICK(L)
REGSV
EX.RECSV
CONC
SECAM(H)
B/W(H)
4.43PBC
IC3005 M5M6871R5
IC3003 AN3495S
IC3002 VEFH058T
P3001 TO CCD PACK
P3002 TO CCD PACK
NOT USED
7
8
9

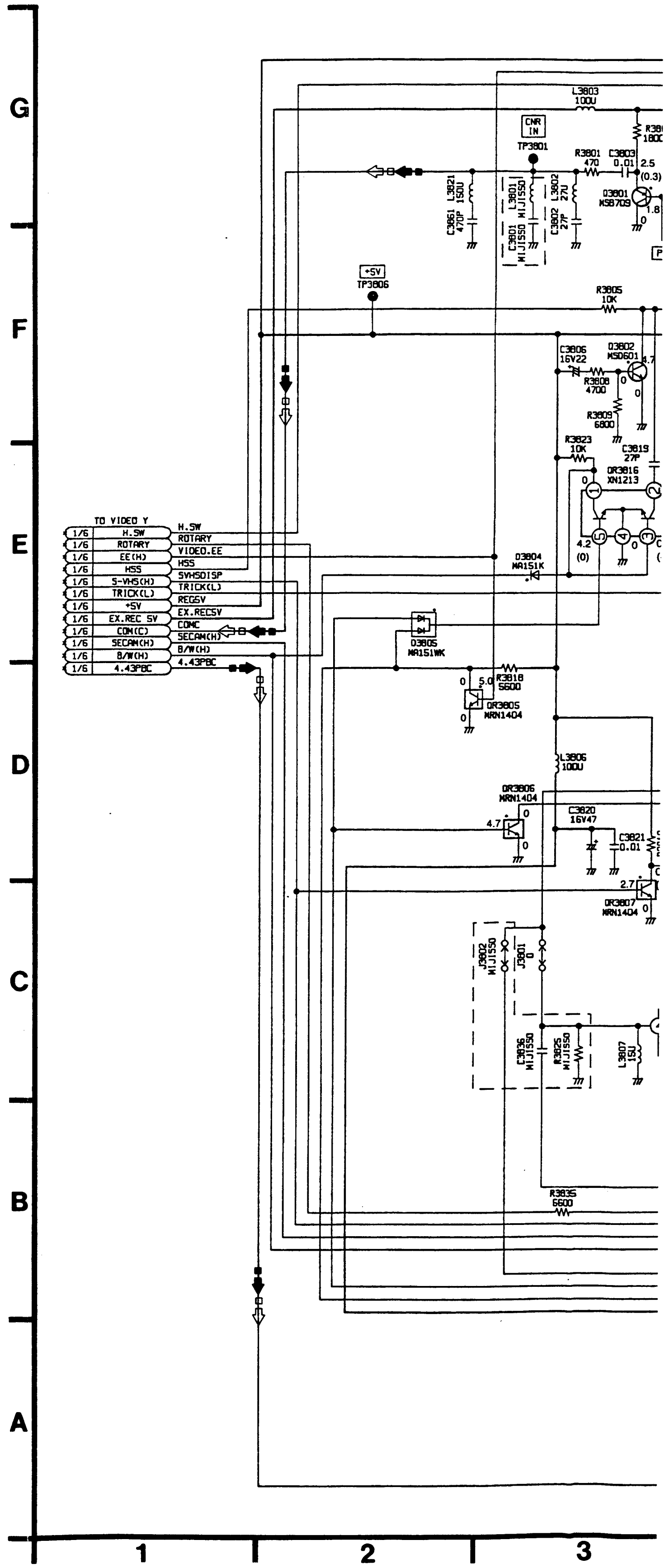
IC3003 (AN3495S)



IC3801 (VCR0824)



M52068FP
DIGITAL M.M.
ROTARY
SUB BM
FSI
MMV
VCXO
BF
90 DEG
CPS CPN DET
REC APC DET
PB APC DET
SIDE LOCK DET
BST ERR DET
PB OUT KILLER
5dB
AFC DET
SNS
APC PC
320fH VCO
COMB AMP
6dB
10dB/5dB
BST DOWN
BST UP
ACC DET
ACC AMP
KILLER DET
4dB AMP
MAIN BM
PHASE SELT
P-B ST GEN
PB AMP
REC OUT KILLER



G
F
E
D
C
B
A
1
2
3
TO VIDEO Y
TP3801
TP3806

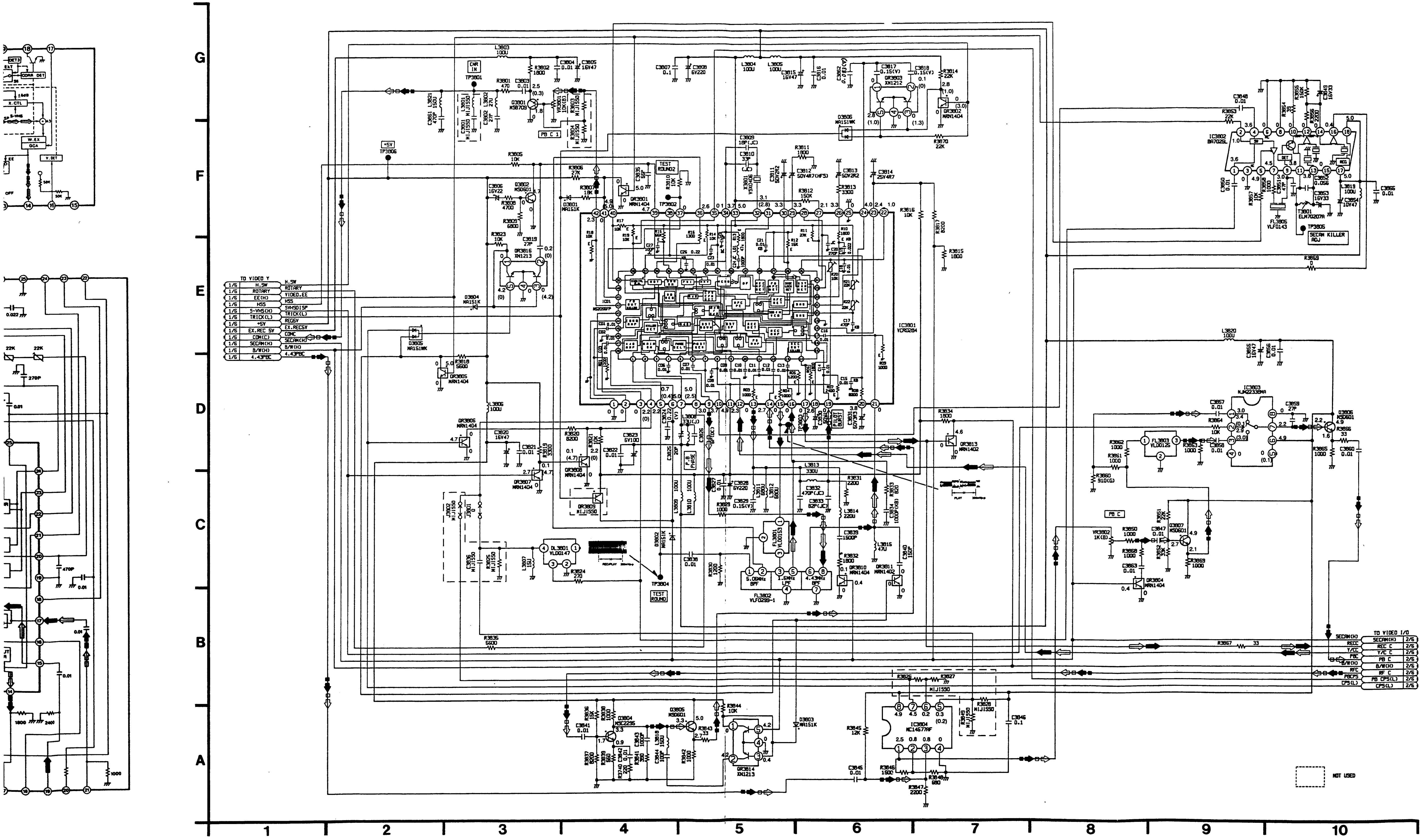
VIDEO C SCHEMATIC DIAGRAM

◀ MAIN SIGNAL PATH IN REC MODE (VHS)

◁ MAIN SIGNAL PATH IN REC MODE (S-VHS)

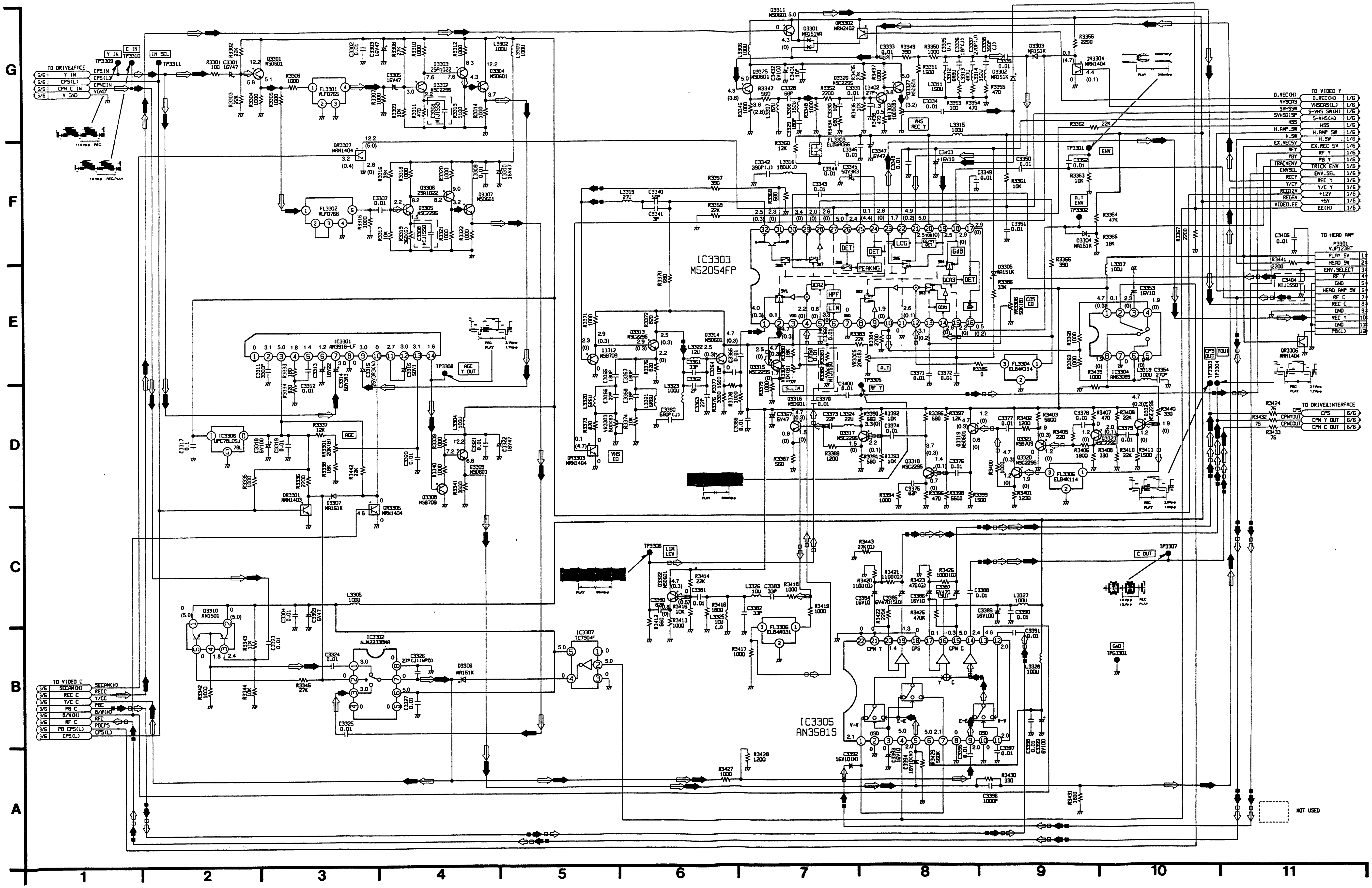
◀■ MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)

◁□ MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
IC3801 YCR0284
IC3802 BA7025L
IC3803 NJM2233BMA
IC3804 MC14577MF
FL3801 VLD0153
FL3802 VLF0299-1
FL3803 YLD0125
FL3805 YLF0143
DL3801 YLD0147
QR3803 XN1212
QR3816 XN1213
QR3814 XN1213
T3801 ELM70207R
TP3801
TP3802
TP3804
TP3805
TP3806
+5V
TEST ROUND
TEST ROUND2
SECAM KILLER ADJ
PB C
TO VIDEO Y
H.SW
ROTARY
VIDEO.EE
HSS
SW-HSD15P
TRICK(L)
REC5V
EX.RECSV
COMC
SECAM(H)
B/W(H)
4.43PBC
TO VIDEO I/O
SECAM(H)
REC C
Y/C C
PB C
B/W(H)
RF C
PB CPS(L)
CPS(L)
6.06MHz BPF
1.6MHz LPF
4.43MHz BPF
NOT USED

VIDEO I/O SCHEMATIC DIAGRAM

- MAIN SIGNAL PATH IN REC MODE (VHS)
- MAIN SIGNAL PATH IN REC MODE (S-VHS)
- MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)
- MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)



TO DRIVE&FACE
TP3309
TP3310
TP3311
Y IN
C IN
IN SEL
IC3301 AN3916-LF
IC3302 NJM2233BMA
IC3303 M52054FP
IC3304 AN6308S
IC3305 AN3581S
IC3306 UPC78L05J
IC3307 TC7S04F
FL3301 YLF0765
FL3302 YLF0766
FL3303 ELB4A066
FL3304 ELB4K114
FL3305 ELB4K114
FL3306 ELB4R031
TO VIDEO Y
TO HEAD AMP
P3301 VJP1239T
TO DRIVE&INTERFACE
TO VIDEO C
TP3301
TP3302
TP3304
TP3305
TP3306
TP3307
TP3308
TPG3301
AGC
ENV
A.T ENV
VHS EQ
VHS REC Y
S.LIM
LIM LEV
RF Y
A.T
C OUT
CPS OUT
Y OUT
AGC Y OUT
GND
NOT USED
REC
PLAY
REC/PLAY
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G

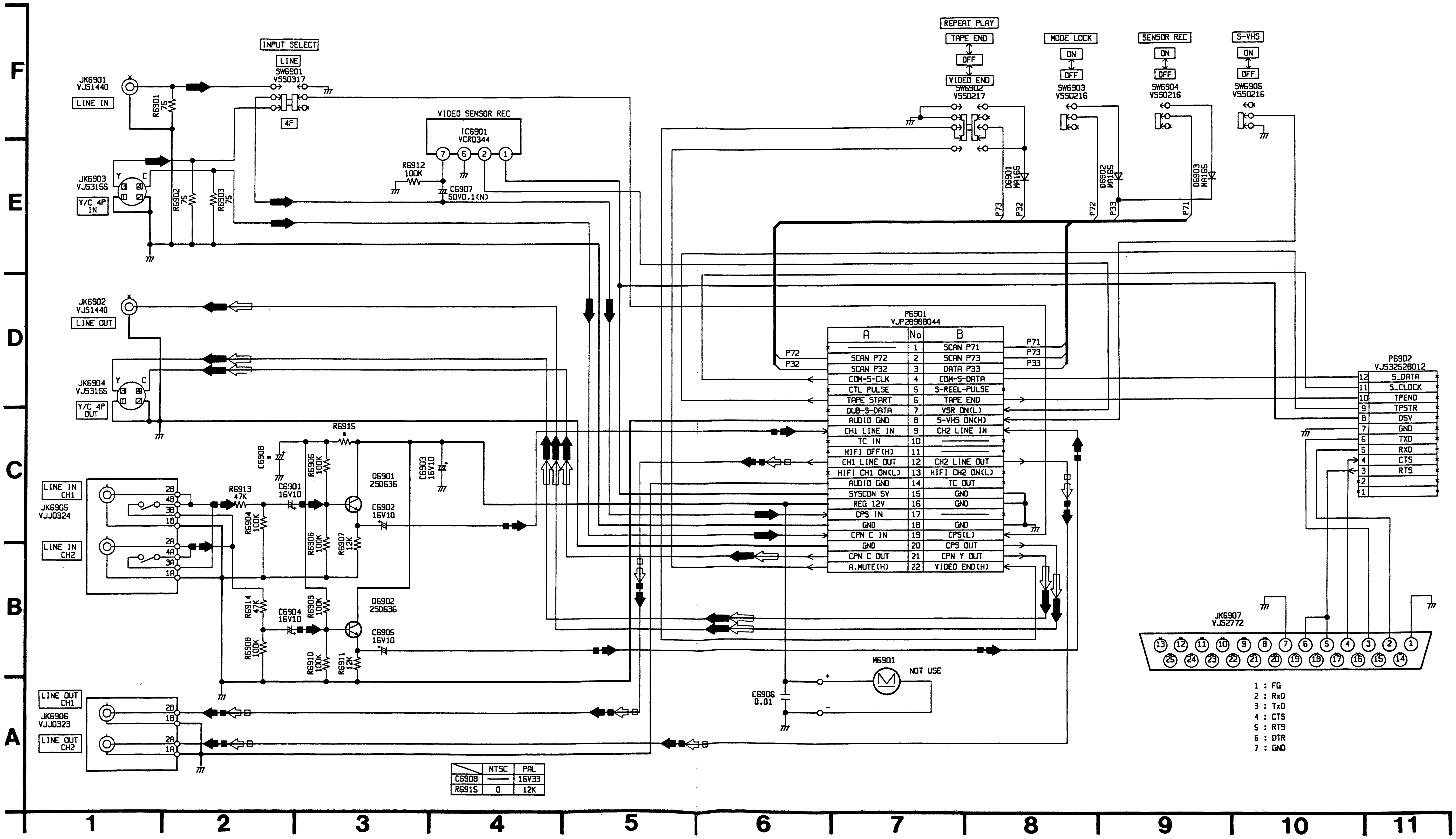
REAR JACK SCHEMATIC DIAGRAM

◀ VIDEO MAIN SIGNAL PATH IN REC MODE

◁ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

◀■ AUDIO MAIN SIGNAL PATH IN REC MODE

◁□ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE


F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
JK6901 VJS1440
LINE IN
R6901 75
INPUT SELECT
LINE
SW6901 VSS0317
4P
JK6903 VJS3155
Y/C 4P IN
Y
C
R6902 75
R6903 75
VIDEO SENSOR REC
IC6901 VCR0344
R6912 100K
C6907 50V0.1(N)
REPEAT PLAY
TAPE END
OFF
VIDEO END
SW6902 VSS0217
MODE LOCK
ON
OFF
SW6903 VSS0216
SENSOR REC
ON
OFF
SW6904 VSS0216
S-VHS
ON
OFF
SW6905 VSS0216
D6901 MA165
D6902 MA165
D6903 MA165
P73
P32
P72
P33
P71
JK6902 VJS1440
LINE OUT
JK6904 VJS3155
Y/C 4P OUT
P6901 VJP28988044
P6902 VJS32528012
R6915
C6908
C6903 16V10
LINE IN CH1
JK6905 VJJ0324
LINE IN CH2
2B
4B
3B
1B
2A
4A
3A
1A
R6913 47K
C6901 16V10
R6905 100K
R6904 100K
Q6901 2SD636
C6902 16V10
R6906 100K
R6907 12K
R6914 47K
C6904 16V10
R6909 100K
Q6902 2SD636
C6905 16V10
R6908 100K
R6910 100K
R6911 12K
LINE OUT CH1
JK6906 VJJ0323
LINE OUT CH2
C6906 0.01
M6901
NOT USE
JK6907 VJS2772
1 : FG
2 : RxD
3 : TxD
4 : CTS
5 : RTS
6 : DTR
7 : GND

P6901 VJP28988044

A	No	B
———	1	SCAN P71
SCAN P72	2	SCAN P73
SCAN P32	3	DATA P33
COM-S-CLK	4	COM-S-DATA
CTL PULSE	5	S-REEL-PULSE
TAPE START	6	TAPE END
DUB-S-DATA	7	VSR ON(L)
AUDIO GND	8	S-VHS ON(H)
CH1 LINE IN	9	CH2 LINE IN
TC IN	10	———
HIFI OFF(H)	11	———
CH1 LINE OUT	12	CH2 LINE OUT
HIFI CH1 ON(L)	13	HIFI CH2 ON(L)
AUDIO GND	14	TC OUT
SYSCON 5V	15	GND
REG 12V	16	GND
CPS IN	17	———
GND	18	GND
CPN C IN	19	CPS(L)
GND	20	CPS OUT
CPN C OUT	21	CPN Y OUT
A.MUTE(H)	22	VIDEO END(H)

P6902 VJS32528012

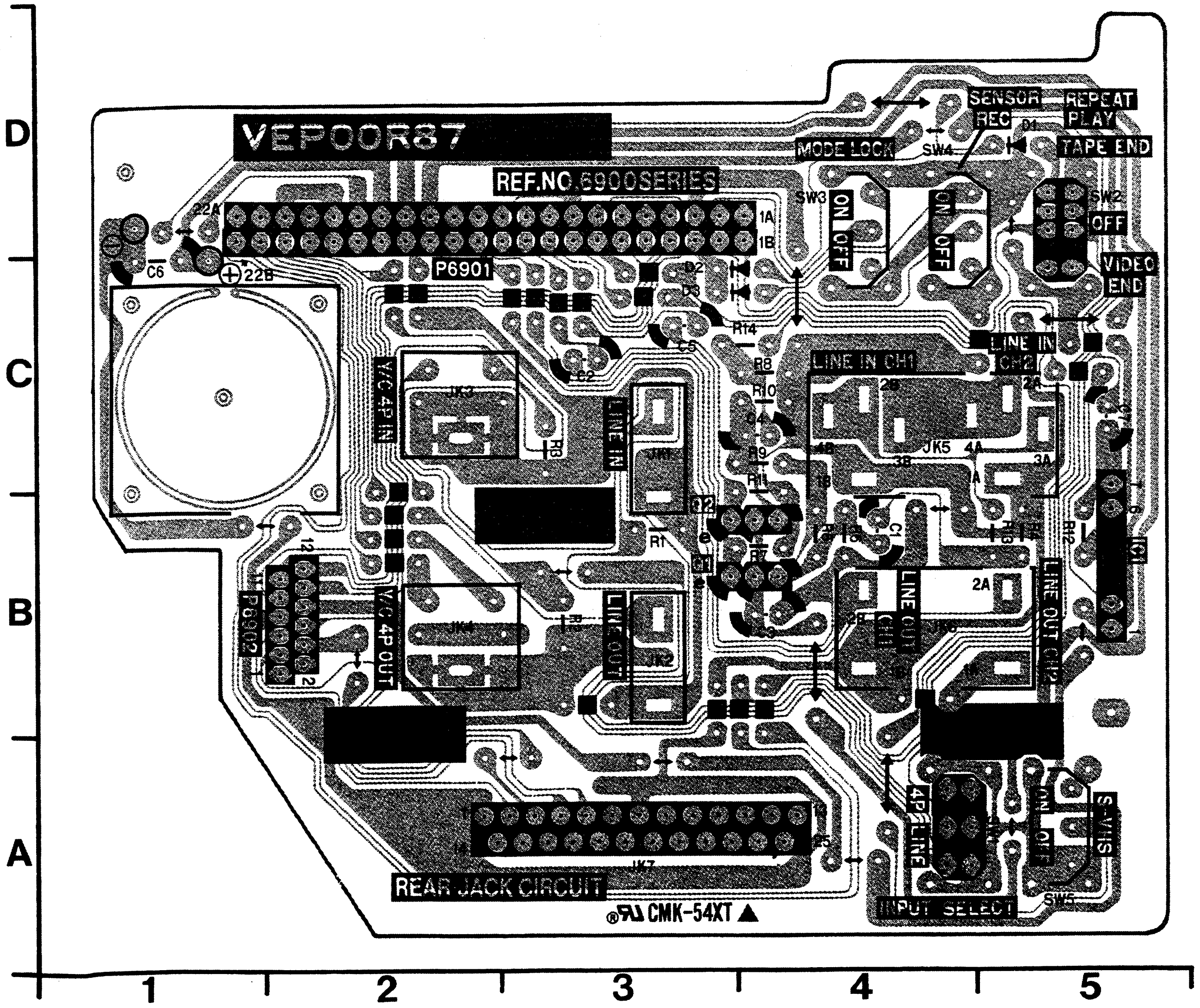
12	S_DATA
11	S_CLOCK
10	TPEND
9	TPSTR
8	D5V
7	GND
6	TXD
5	RXD
4	CTS
3	RTS
2	
1	

	NTSC	PAL
C6908	———	16V33
R6915	0	12K

REAR JACK C.B.A. (VEP00R87A)

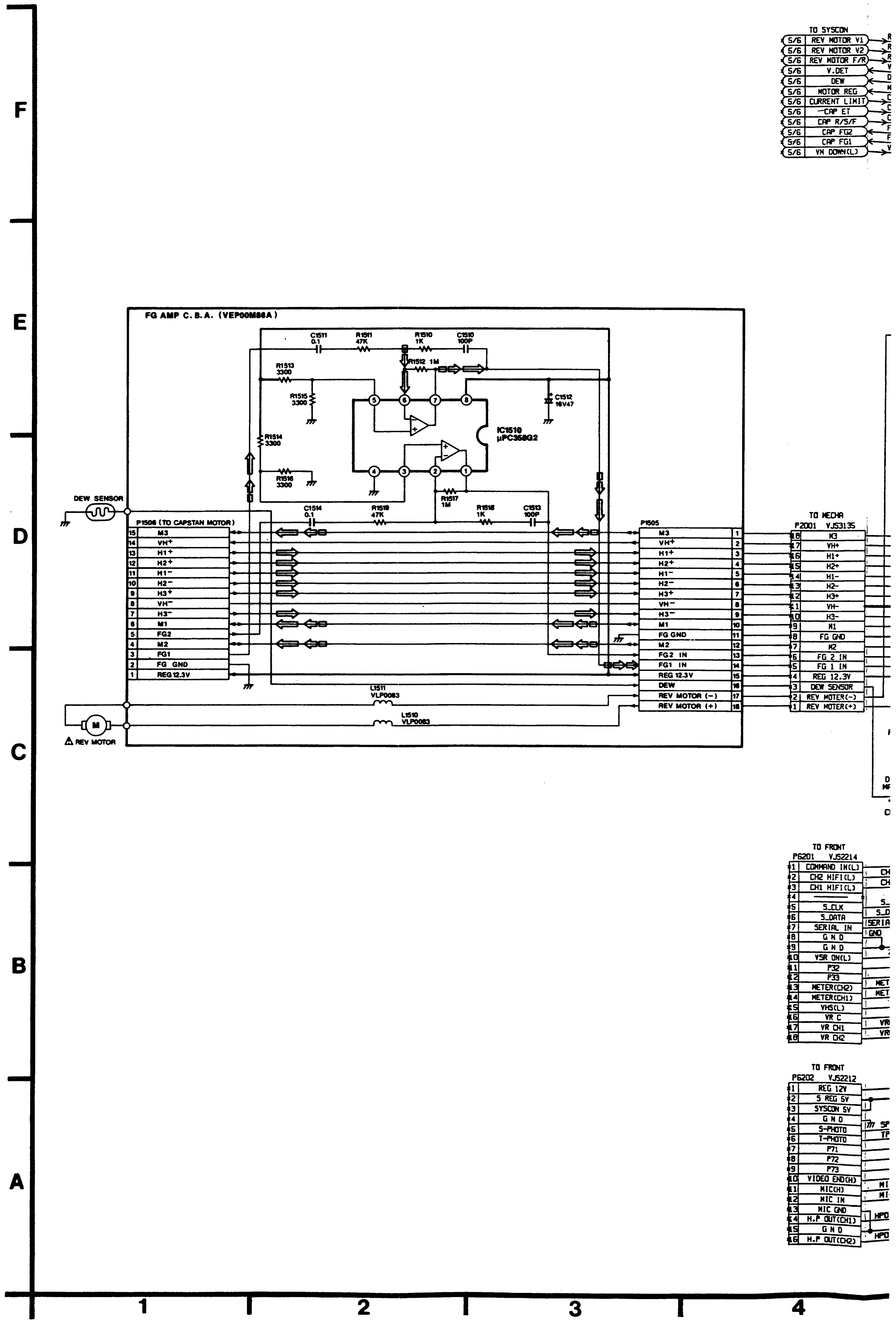
REAR JACK C.B.A.	
Transistor	
Q6901	B-3
Integrated Circuit	
IC6901	B-5
Connector	
P6901 P6902	C-2 B-1

ADDRESS INFORMATION



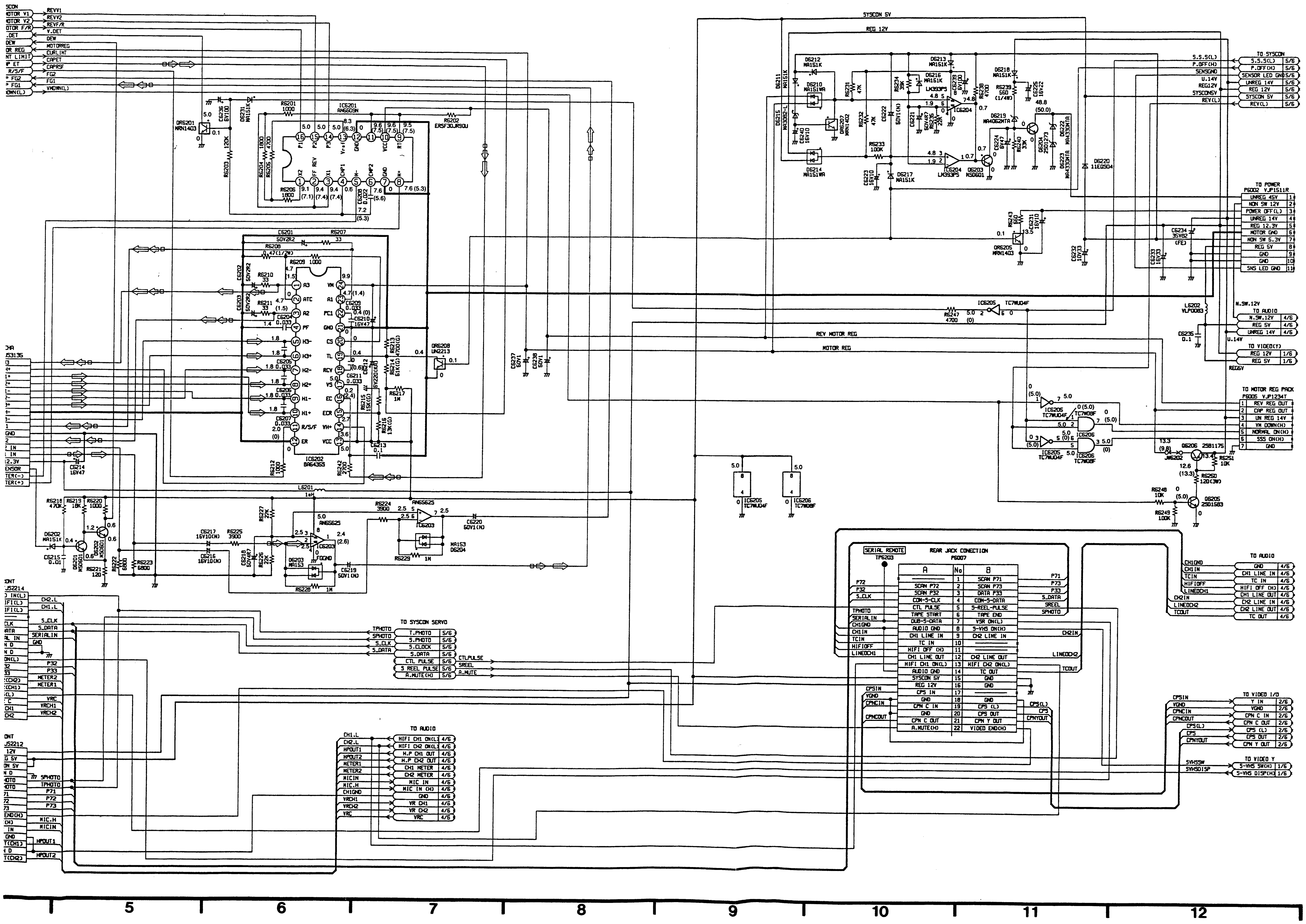
VEP00R87
REF.NO.6900SERIES
P6901
1A
1B
22A
22B
C6
MODE LOCK
SW4
SENSOR
REC
REPEAT
PLAY
TAPE END
SW3
ON OFF
SW2
OFF
VIDEO END
LINE IN CH1
LINE IN CH2
V/C 4P IN
JK3
LINE IN
JK5
V/C 4P OUT
JK4
LINE OUT
JK2
LINE OUT CH1
LINE OUT CH2
P6902
JK7
REAR JACK CIRCUIT
CMK-54XT
4P LINE
INPUT SELECT
SW5
S-VHS
A
B
C
D
1
2
3
4
5

DRIVE & INTERFACE SCHEMATIC DIAGRAM



TO SYSCON
REV MOTOR V1
REV MOTOR V2
REV MOTOR F/R
V.DET
DEW
MOTOR REG
CURRENT LIMIT
CAP ET
CAP R/S/F
CAP FG2
CAP FG1
VH DOWN(L)
FG AMP C.B.A. (VEP00M86A)
IC1510
μPC358G2
DEW SENSOR
P1506 (TO CAPSTAN MOTOR)
P1505
REV MOTOR
L1511
VLP0083
L1510
VLP0083
TO MECHA
P2001 VJS3135
TO FRONT
P6201 VJS2214
TO FRONT
P6202 VJS2212
A
B
C
D
E
F
1
2
3
4

⇐ CAPSTAN SERVO SPEED LOOP ⇐□ CAPSTAN SERVO PHASE LOOP

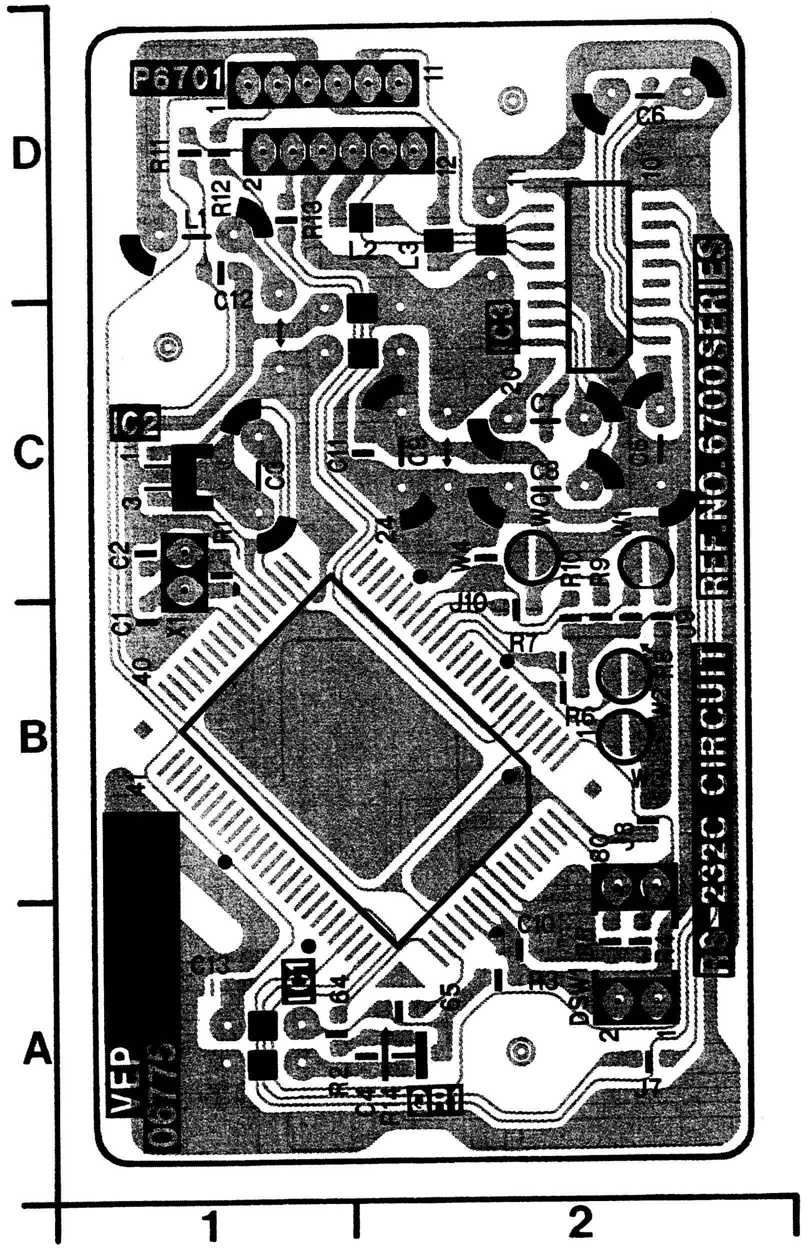


IC6201 AN6609N
IC6202 BA6435S
IC6203 AN6562S
IC6204 LM393PS
IC6205 TC7WU04F
IC6206 TC7W08F
QR6201 MRN1403
QR6205 MRN1403
QR6208 UN2213
Q6201 NSD601
Q6202 NSD601
Q6203 NSD601
Q6204 2SD1273
Q6205 2SD1583
Q6206 2SB1175
L6201
L6202 YLP0083
SYSCON 5V
REG 12V
REV MOTOR REG
MOTOR REG
TO SYSCON
S.S.S(L)
P.OFF(H)
SENSOR LED GND
UNREG 14V
REG 12V
SYSCON 5V
REV(L)
TO POWER
P6002 VJP1511R
UNREG 45V
NON SW 12V
POWER OFF(L)
UNREG 14V
REG 12.3V
MOTOR GND
NON SW 5.3V
REG 5V
GND
SNS LED GND
TO AUDIO
N.SW.12V
REG 5V
UNREG 14V
TO VIDEO(Y)
REG 12V
REG 5V
TO MOTOR REG PACK
P6005 VJP1234T
REV REG OUT
CAP REG OUT
UN REG 14V
VM DOWN(H)
NORMAL ON(H)
SSS ON(H)
GND
SERIAL REMOTE
TP6203
REAR JACK CONECTION
P6007
TO SYSCON SERVO
T.PHOTO
S.PHOTO
S.CLOCK
S.DATA
CTL PULSE
S REEL PULSE
A.MUTE(H)
TO AUDIO
HIFI CH1 ON(L)
HIFI CH2 ON(L)
H.P CH1 OUT
H.P CH2 OUT
CH1 METER
CH2 METER
MIC IN
MIC IN (H)
GND
VR CH1
VR CH2
VRC
TO AUDIO
GND
CH1 LINE IN
TC IN
HIFI OFF (H)
CH1 LINE OUT
CH2 LINE IN
CH2 LINE OUT
TC OUT
TO VIDEO I/O
Y IN
YGND
CPN C IN
CPN C OUT
CPS (L)
CPS OUT
CPN Y OUT
TO VIDEO Y
S-VHS SW(H)
S-VHS DISP(H)
5
6
7
8
9
10
11
12

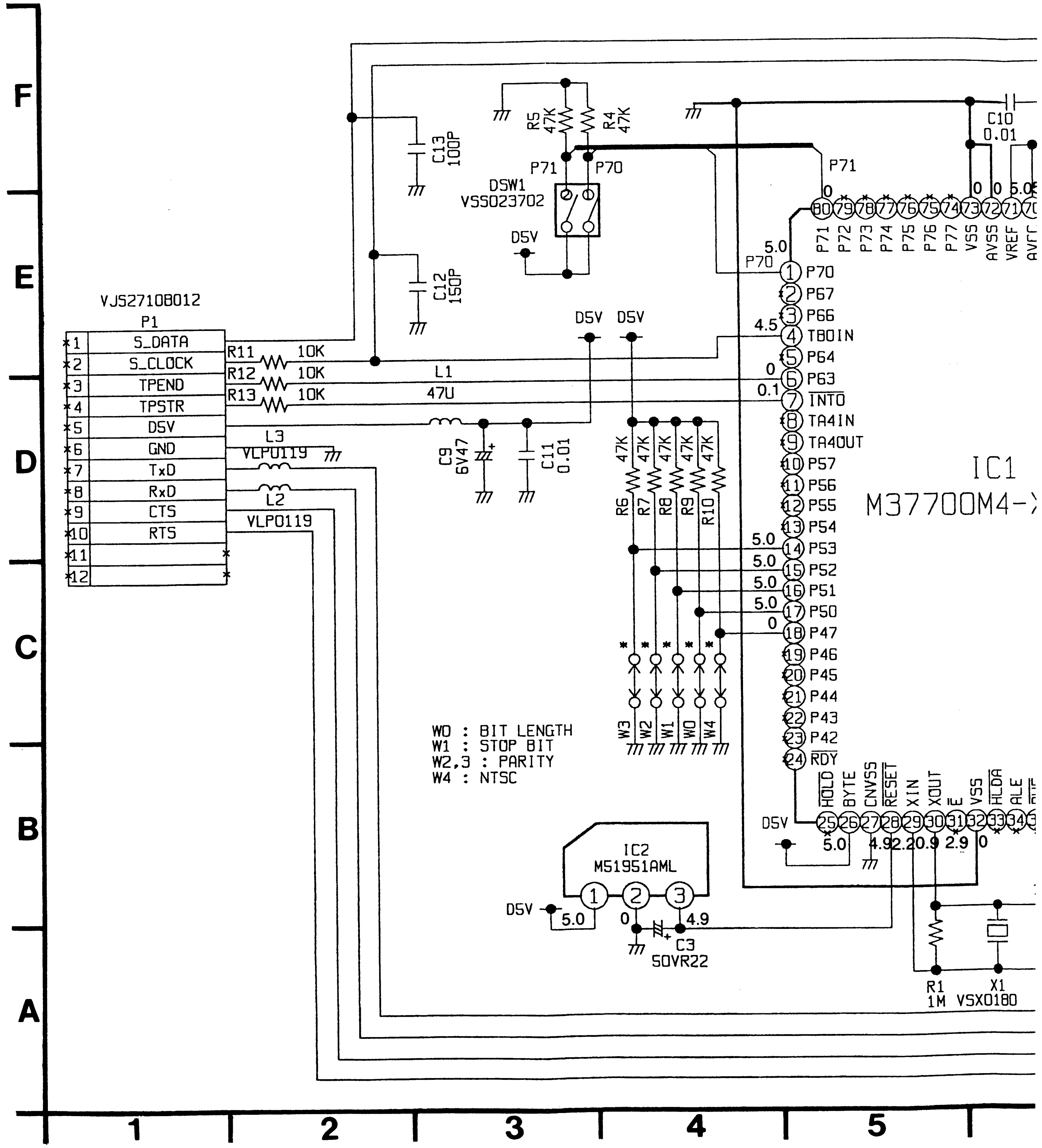
RS-232C C.B.A. (VEP06775B)

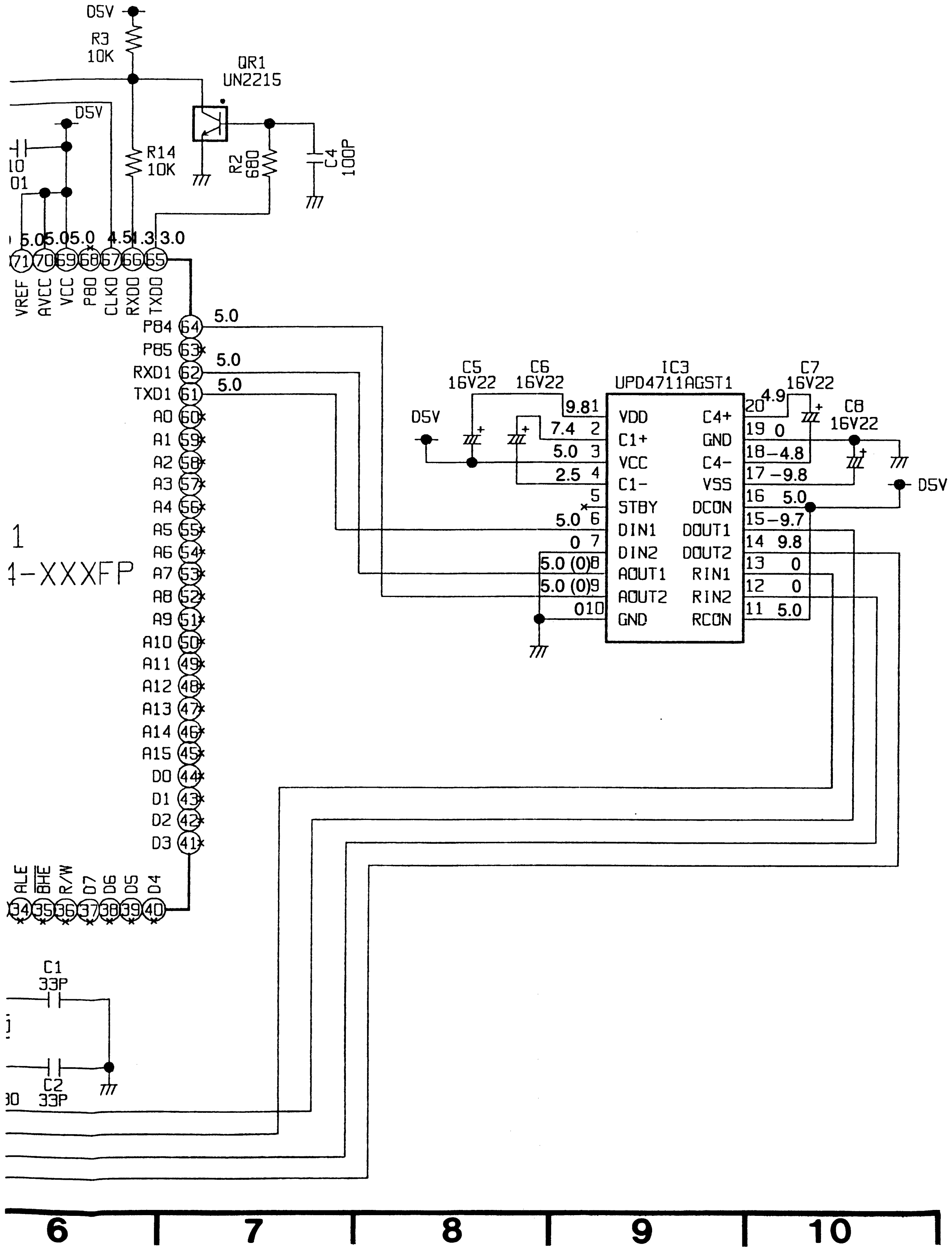
RS-232C C.B.A.	
Transistor & Resistor	
QR6701	A-2
Integrated Circuit	
IC6701 IC6702 IC6703	A-1 C-1 C-2
Connector	
P6701	D-1

ADDRESS INFORMATION


D
C
B
A
1
2
P6701
IC2
IC3
IC1
RS-232C CIRCUIT
REF.NO 6700SERIES
VEP 06775
R11
R12
L1
L2
L3
C13
C1
C2
C6
C9
C10
C11
C12
R6
R7
DSW1
QR1
X1
R1
R3

RS-232C SCHEMATIC DIAGRAM


F
E
D
C
B
A
1
2
3
4
5
VJS27108012
P1
1 S_DATA
2 S_CLOCK
3 TPEND
4 TPSTR
5 DSV
6 GND
7 TxD
8 RxD
9 CTS
10 RTS
11
12
R11 10K
R12 10K
R13 10K
L1 47U
L3 VLP0119
L2 VLP0119
C13 100P
C12 150P
C9 6V47
C11 0.01
C10 0.01
R5 47K
R4 47K
DSW1 VSS023702
P71
P70
DSV
R6 47K
R7 47K
R8 47K
R9 47K
R10 47K
W3 W2 W1 W0 W4
W0 : BIT LENGTH
W1 : STOP BIT
W2,3 : PARITY
W4 : NTSC
IC2 M51951AML
C3 50VR22
R1 1M
X1 VSX0180
IC1
M37700M4-
P70 P67 P66 TB0IN P64 P63 INT0 TA4IN TA4OUT P57 P56 P55 P54 P53 P52 P51 P50 P47 P46 P45 P44 P43 P42 RDY
HOLD BYTE CNVSS RESET XIN XOUT E VSS HLDA ALE
P71 P72 P73 P74 P75 P76 P77 VSS AVSS VREF AVCC
5.0 4.5 0 0.1 5.0 5.0 5.0 5.0 0 4.9 2.2 0.9 2.9


D5V
R3
10K
QR1
UN2215
D5V
R14
10K
R2
680
C4
100P
10
01
5.0 5.0 5.0 5.0 4.5 1.3 3.0
71 70 69 68 67 66 65
VREF
AVCC
VCC
P80
CLK0
RXD0
TXD0
P84 64
P85 63
RXD1 62
TXD1 61
A0 60
A1 59
A2 58
A3 57
A4 56
A5 55
A6 54
A7 53
A8 52
A9 51
A10 50
A11 49
A12 48
A13 47
A14 46
A15 45
D0 44
D1 43
D2 42
D3 41
ALE
BHE
R/W
D7
D6
D5
D4
34 35 36 37 38 39 40
1
4-XXXFP
C1
33P
C2
33P
30
5.0
5.0
5.0
C5
16V22
C6
16V22
IC3
UPD4711AGST1
C7
16V22
C8
16V22
D5V
D5V
9.8 1
7.4 2
5.0 3
2.5 4
5
5.0 6
0 7
5.0 (0) 8
5.0 (0) 9
0 10
VDD
C1+
VCC
C1-
STBY
DIN1
DIN2
AOUT1
AOUT2
GND
C4+
GND
C4-
VSS
DCON
DOUT1
DOUT2
RIN1
RIN2
RCON
20 4.9
19 0
18 -4.8
17 -9.8
16 5.0
15 -9.7
14 9.8
13 0
12 0
11 5.0
6
7
8
9
10

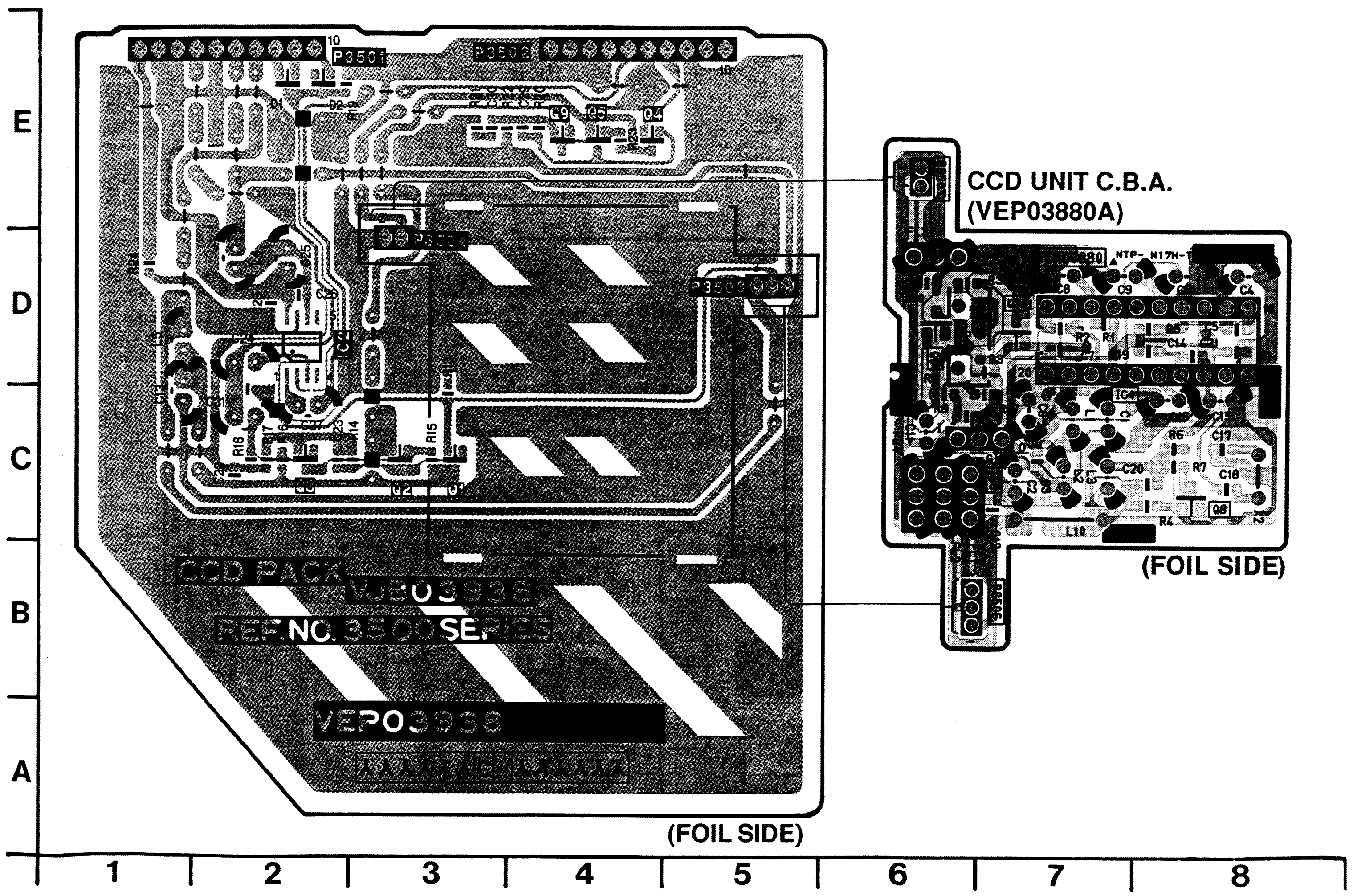
CCD C.B.A. (VEP03938A) AND CCD UNIT C.B.A. (VEP03880A)

CCD UNIT	
Transistor	
Q8506	D-6
Q8507	D-7
Q8508	C-8
Integrated Circuit	
IC8504	D-8
IC8505	C-7
Connector	
P8506	B-7
P8507	E-6

ADDRESS INFORMATION

CCD C.B.A.	
Transistor	
Q3501	C-3
Q3502	C-3
Q3503	C-2
Q3504	E-4
Q3505	E-4
Q3509	E-4
Integrated Circuit	
IC3502	D-2
Connector	
P3501	E-2
P3502	E-4
P3503	D-5
P3504	D-3

ADDRESS INFORMATION


E
D
C
B
A
1
2
3
4
5
6
7
8
P3501
P3502
P3503
P3504
CCD PACK
VJB03938
REF.NO.3500 SERIES
VEP03938
CCD UNIT C.B.A.
(VEP03880A)

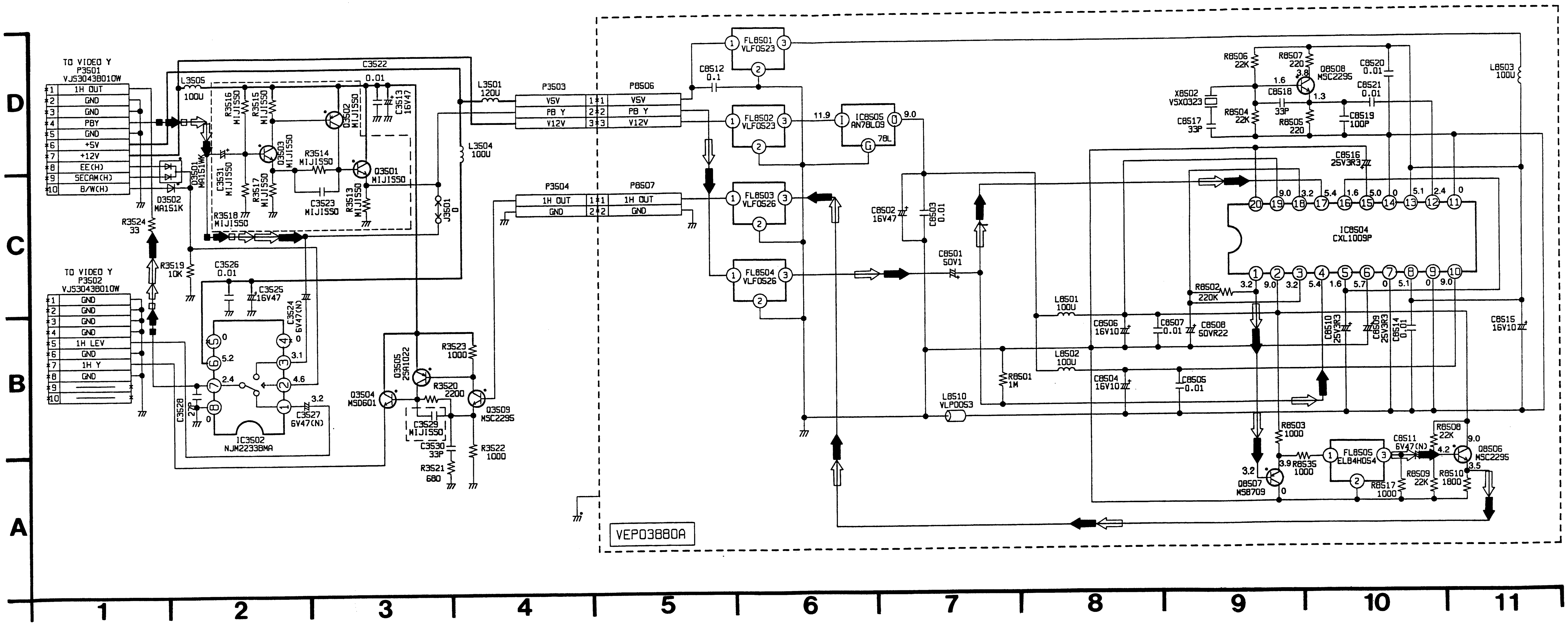
(FOIL SIDE)

(FOIL SIDE)

CCD SCHEMATIC DIAGRAM

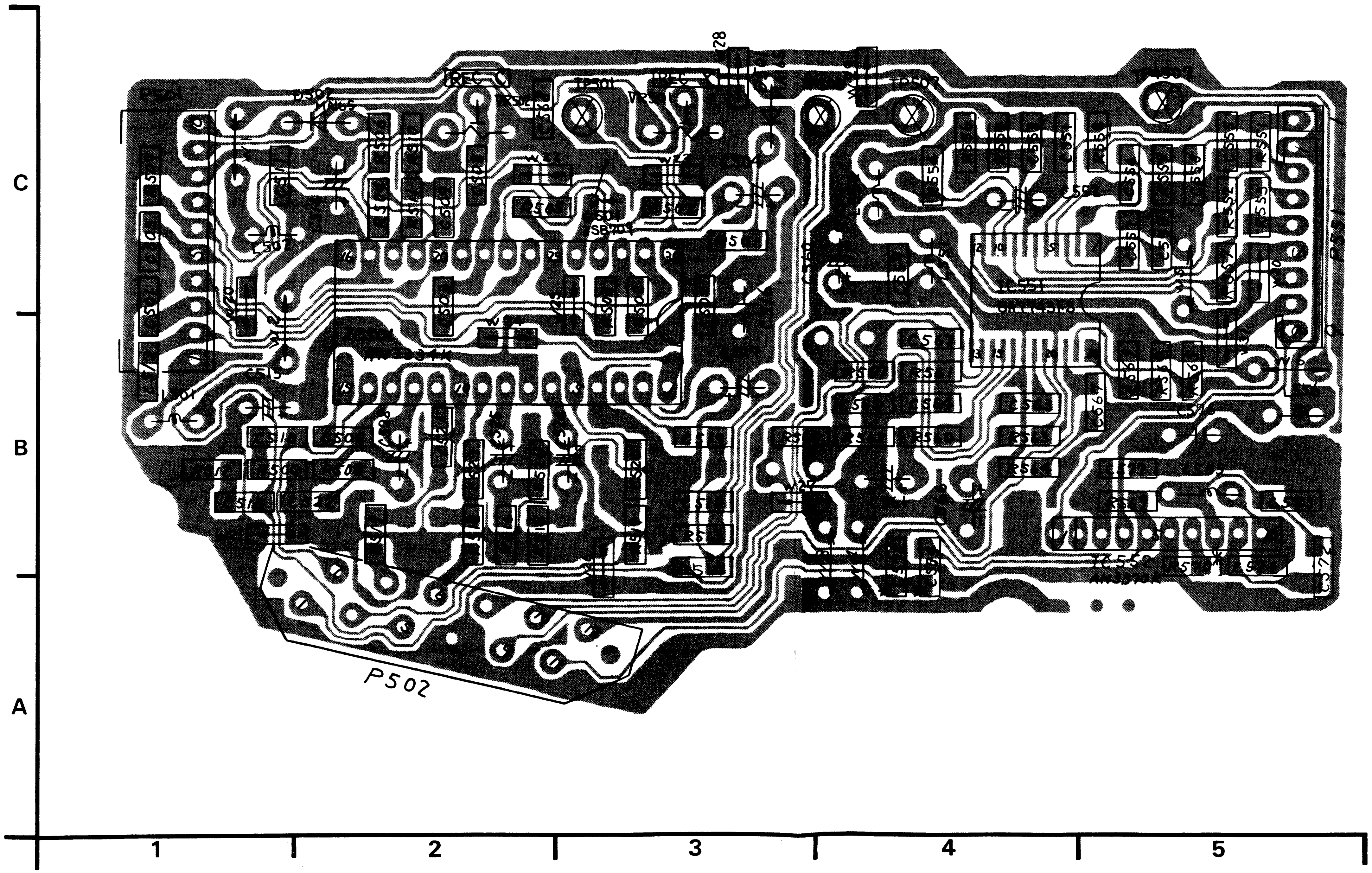
◀■ MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)

◁□ MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)


D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
TO VIDEO Y
P3501
VJS3043B010W
1 1H OUT
2 GND
3 GND
4 PBY
5 GND
6 +5V
7 +12V
8 EE(H)
9 SECAM(H)
10 B/W(H)
TO VIDEO Y
P3502
VJS3043B010W
1 GND
2 GND
3 GND
4 GND
5 1H LEV
6 GND
7 1H Y
8 GND
L3505
100U
C3522
0.01
C3513
16V47
R3516
MIJ1550
R3515
MIJ1550
Q3502
MIJ1550
Q3503
MIJ1550
R3514
MIJ1550
Q3501
MIJ1550
D3501
MA151WK
C3531
MIJ1550
R3517
MIJ1550
R3518
MIJ1550
C3523
MIJ1550
R3513
MIJ1550
J3501
0
D3502
MA151K
R3524
33
R3519
10K
C3526
0.01
C3525
16V47
C3524
6V47(N)
IC3502
NJM2233BMA
C3527
6V47(N)
C3528
27P
L3501
120U
L3504
100U
Q3505
2SA1022
R3523
1000
R3520
2200
Q3504
MSD601
Q3509
MSC2295
C3529
MIJ1550
C3530
33P
R3521
680
R3522
1000
P3503
VSV
PB Y
V12V
P8506
VSV
PB Y
V12V
P3504
1H OUT
GND
P8507
1H OUT
GND
FL8501
VLF0523
FL8502
VLF0523
FL8503
VLF0526
FL8504
VLF0526
C8512
0.1
IC8505
AN78L09
78L
11.9
9.0
C8502
16V47
C8503
0.01
C8501
50V1
L8510
VLP0053
R8501
1M
L8501
100U
L8502
100U
C8506
16V10
C8504
16V10
C8507
0.01
C8505
0.01
C8508
50VR22
R8502
220K
X8502
VSX0323
C8517
33P
R8506
22K
R8507
220
Q8508
MSC2295
C8518
33P
R8504
22K
R8505
220
C8520
0.01
C8521
0.01
C8519
100P
C8516
25V3R3
L8503
100U
IC8504
CXL1009P
C8510
25V3R3
C8509
25V3R3
C8514
0.01
C8515
16V10
R8503
1000
R8535
1000
Q8507
MSB709
FL8505
EL84H054
C8511
6V47(N)
R8508
22K
Q8506
MSC2295
R8509
22K
R8510
1800
R8517
1000
VEP03880A

VIDE-V00638 /Druck35

HEAD AMP C.B.A. (VEP05152C)


C
B
A
1
2
3
4
5
P501
P502
P551
IC551
IC552
AN3370K
TP501
TP507
REC

HEAD AMP C.B.A.	
Transistor	
Q501	C-2
Integrated Circuit	
IC501 IC551 IC552	B-2 B-4 B-5
Test Point	
TP501 TP507 TP508 TP4507	C-3 C-4 C-4 C-5
Adjustment	
VR502	C-2
Connector	
P501 P502 P551	C-1 A-2 C-5

ADDRESS INFORMATION

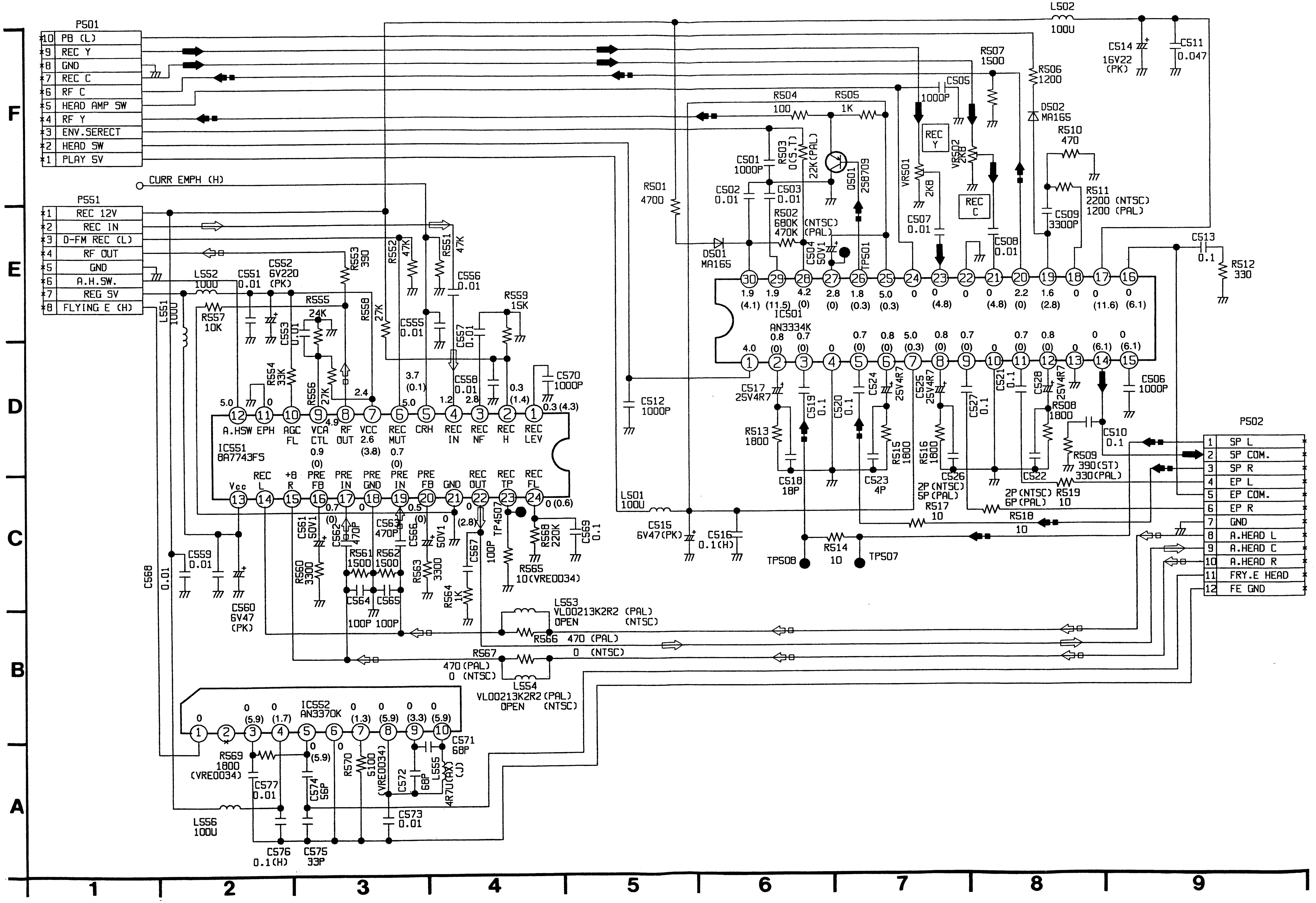
HEAD AMP SCHEMATIC DIAGRAM

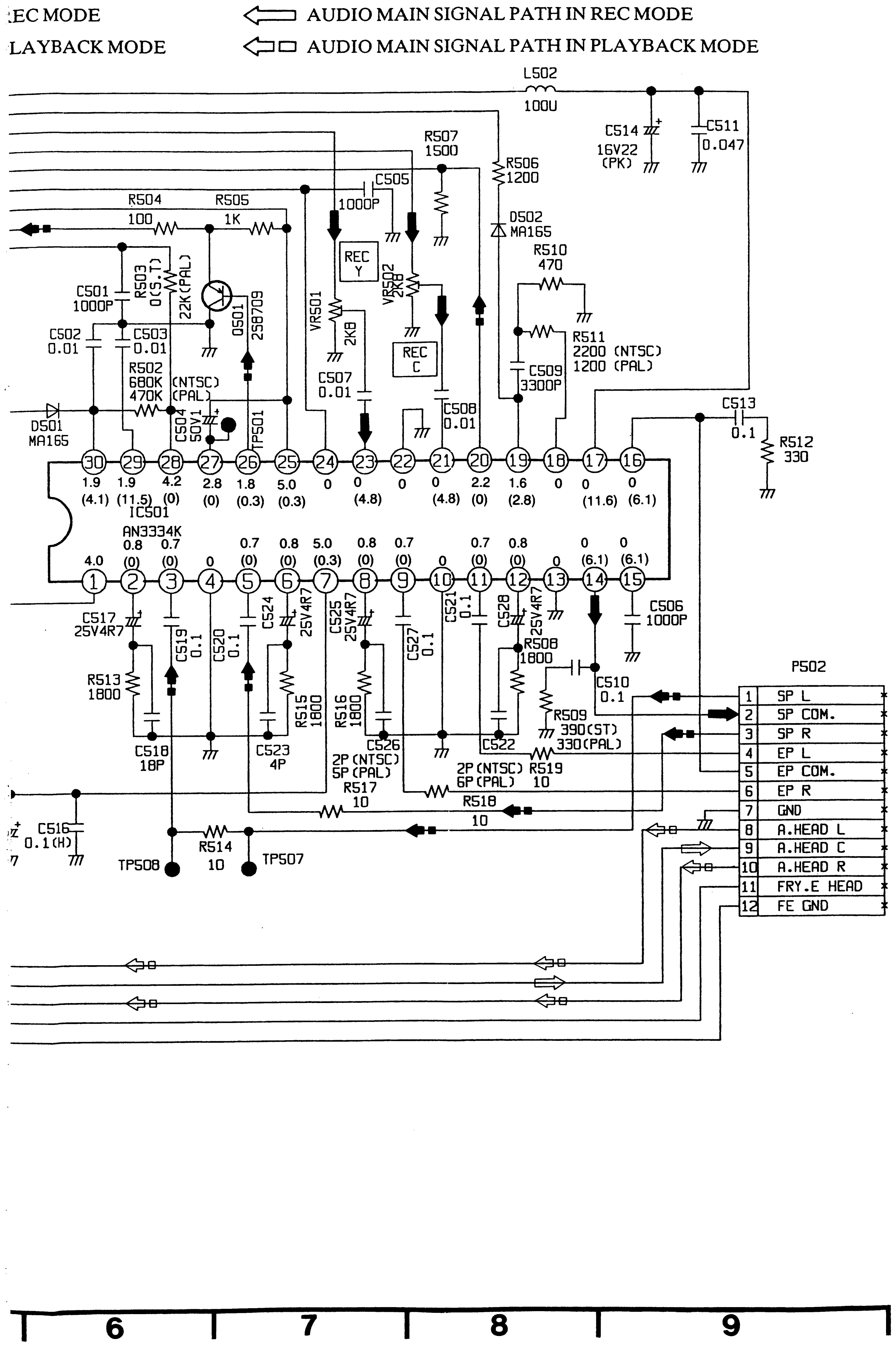
◀━ VIDEO MAIN SIGNAL PATH IN REC MODE

◀■ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

◁ AUDIO MAIN SIGNAL PATH IN REC MODE

◁□ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE

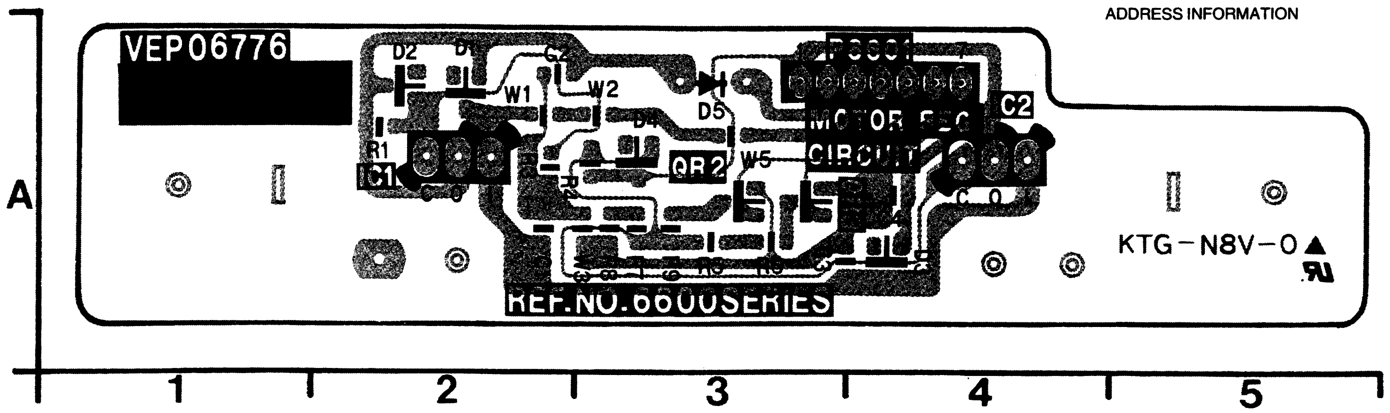

F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
P501
10 PB (L)
9 REC Y
8 GND
7 REC C
6 RF C
5 HEAD AMP SW
4 RF Y
3 ENV.SERECT
2 HEAD SW
1 PLAY 5V
CURR EMPH (H)
P551
1 REC 12V
2 REC IN
3 D-FM REC (L)
4 RF OUT
5 GND
6 A.H.SW.
7 REG 5V
8 FLYING E (H)
L552 100U
C551 0.01
C552 6V220 (PK)
R553 390
R552 47K
R551 47K
C556 0.01
R555 24K
R557 10K
C553 0.01
R558 27K
C555 0.01
C557 0.01
R559 15K
L551 100U
R554 33K
R556 27K
C558 0.01
C570 1000P
IC551 BA7743FS
A.HSW EPH AGC FL VCA CTL RF OUT VCC REC MUT CRH REC IN REC NF REC H REC LEV
Vcc REC L +B R PRE FB PRE IN PRE GND PRE IN PRE FB GND REC OUT REC TP REC FL
C559 0.01
C560 6V47 (PK)
C568 0.01
C561 50V1
C562 470P
C563 470P
C566 50V1
R560 3300
R561 1500
R562 1500
C564 100P
C565 100P
R563 3300
R564 1K
C567 100P
TP4507
R568 220K
C569 0.1
R565 10(VRE0034)
L553 VL00213K2R2 (PAL) OPEN (NTSC)
R566 470 (PAL) 0 (NTSC)
R567 470 (PAL) 0 (NTSC)
L554 VL00213K2R2 (PAL) OPEN (NTSC)
IC552 AN3370K
R569 1800 (VRE0034)
C577 0.01
C574 56P
R570 5100 (VRE0034)
C572 68P
L555 4R7U(AX) (J)
C571 68P
C573 0.01
L556 100U
C576 0.1(H)
C575 33P
L502 100U
C514 16V22 (PK)
C511 0.047
R507 1500
R506 1200
C505 1000P
R504 100
R505 1K
D502 MA165
R510 470
C501 1000P
R503 0(C.T)
22K(PAL)
Q501 2SB709
VR501 2K8
VR502 2K8
REC Y
REC C
R501 4700
C502 0.01
C503 0.01
R502 680K (NTSC) 470K (PAL)
C504 50V1
TP501
C507 0.01
C508 0.01
C509 3300P
R511 2200 (NTSC) 1200 (PAL)
D501 MA165
C513 0.1
R512 330
IC501 AN3334K
C512 1000P
C517 25V4R7
C519 0.1
C520 0.1
C524 25V4R7
C525 25V4R7
C527 0.1
C521 0.1
C528 25V4R7
C506 1000P
R513 1800
C518 18P
R515 1800
C523 4P
R516 1800
C526 2P (NTSC) 5P (PAL)
R508 1800
C522 2P (NTSC) 6P (PAL)
R509 390(ST) 330(PAL)
C510 0.1
R519 10
R517 10
R518 10
L501 100U
C515 6V47(PK)
C516 0.1(H)
R514 10
TP508
TP507
P502
1 SP L
2 SP COM.
3 SP R
4 EP L
5 EP COM.
6 EP R
7 GND
8 A.HEAD L
9 A.HEAD C
10 A.HEAD R
11 FRY.E HEAD
12 FE GND


EC MODE
LAYBACK MODE
AUDIO MAIN SIGNAL PATH IN REC MODE
AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE
L502 100U
C514 16V22 (PK)
C511 0.047
R507 1500
R506 1200
C505 1000P
D502 MA165
R510 470
R511 2200 (NTSC) 1200 (PAL)
C509 3300P
R504 100
R505 1K
C501 1000P
R503 0(5.7)
22K(PAL)
Q501 2SB709
VR501 2KB
VR502 2KB
REC Y
REC C
C502 0.01
C503 0.01
R502 680K (NTSC) 470K (PAL)
C504 50V1
TP501
C507 0.01
C508 0.01
D501 MA165
C513 0.1
R512 330
30 29 28 27 26 25 24 23 22 21 20 19 18 17 16
1.9 (4.1) 1.9 (11.5) 4.2 (0) 2.8 (0) 1.8 (0.3) 5.0 (0.3) 0 0 (4.8) 0 0 (4.8) 2.2 (0) 1.6 (2.8) 0 0 (11.6) 0 (6.1)
IC501 AN3334K
4.0 0.8 (0) 0.7 (0) 0 0.7 (0) 0.8 (0) 5.0 (0.3) 0.8 (0) 0.7 (0) 0 0.7 (0) 0.8 (0) 0 0 (6.1) 0 (6.1)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
C517 25V4R7
C519 0.1
C520 0.1
C524 25V4R7
C525 25V4R7
C527 0.1
C521 0.1
C528 25V4R7
C506 1000P
R508 1800
C510 0.1
R509 390(ST) 330(PAL)
R513 1800
R515 1800
R516 1800
C518 18P
C523 4P
C526 2P (NTSC) 5P (PAL)
C522 2P (NTSC) 6P (PAL)
R519 10
R517 10
R518 10
C516 0.1(H)
R514 10
TP508
TP507
P502
1 SP L
2 SP COM.
3 SP R
4 EP L
5 EP COM.
6 EP R
7 GND
8 A.HEAD L
9 A.HEAD C
10 A.HEAD R
11 FRY.E HEAD
12 FE GND
6 7 8 9

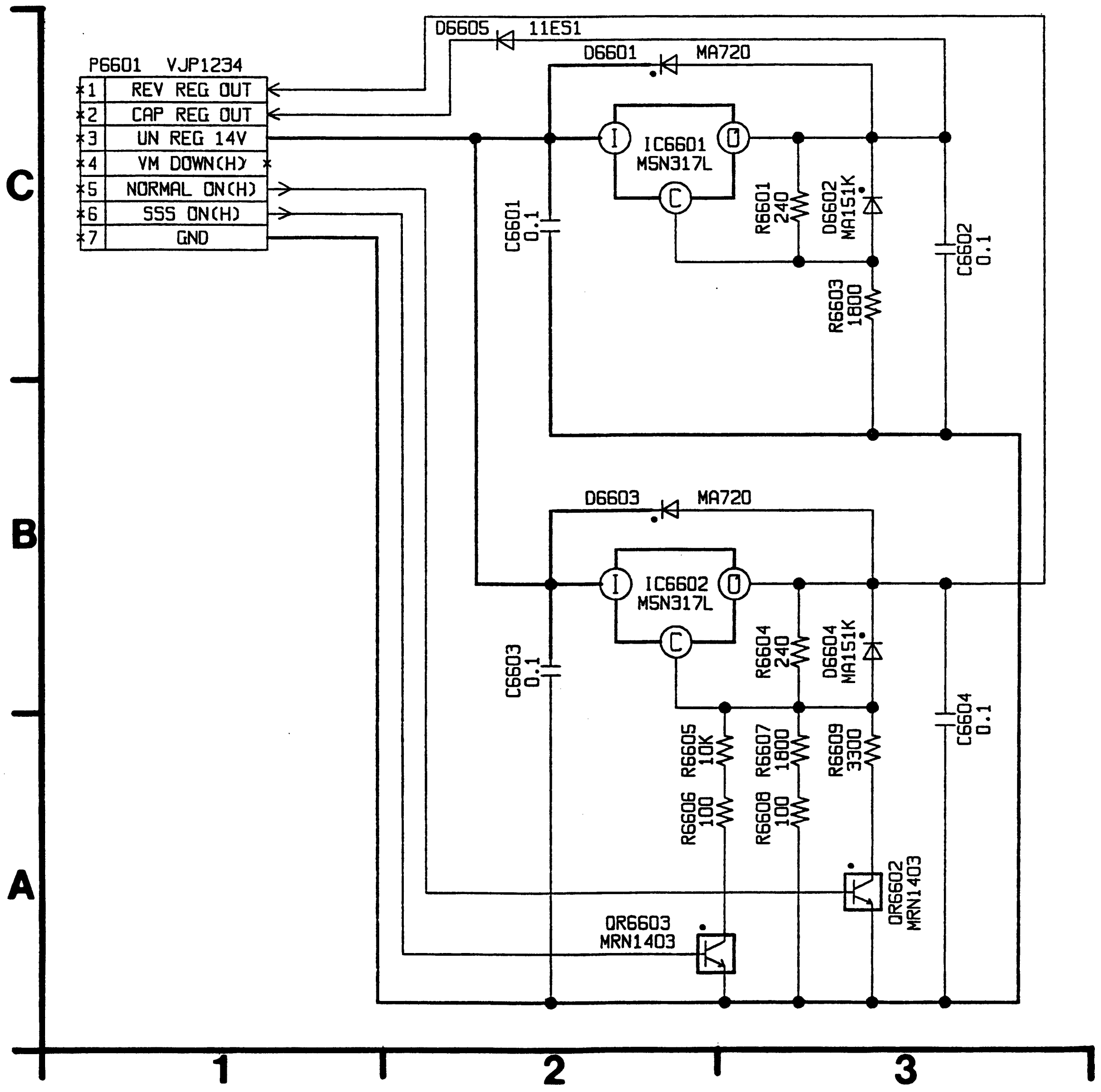
MOTOR REGULATOR C.B.A. (VEP06776A)

MOTOR REGULATOR C.B.A.	
Transistor & Resistor	
QR6602 QR6603	A-3 A-4
Integrated Circuit	
IC6601 IC6602	A-2 A-4
Connector	
P6601	A-4

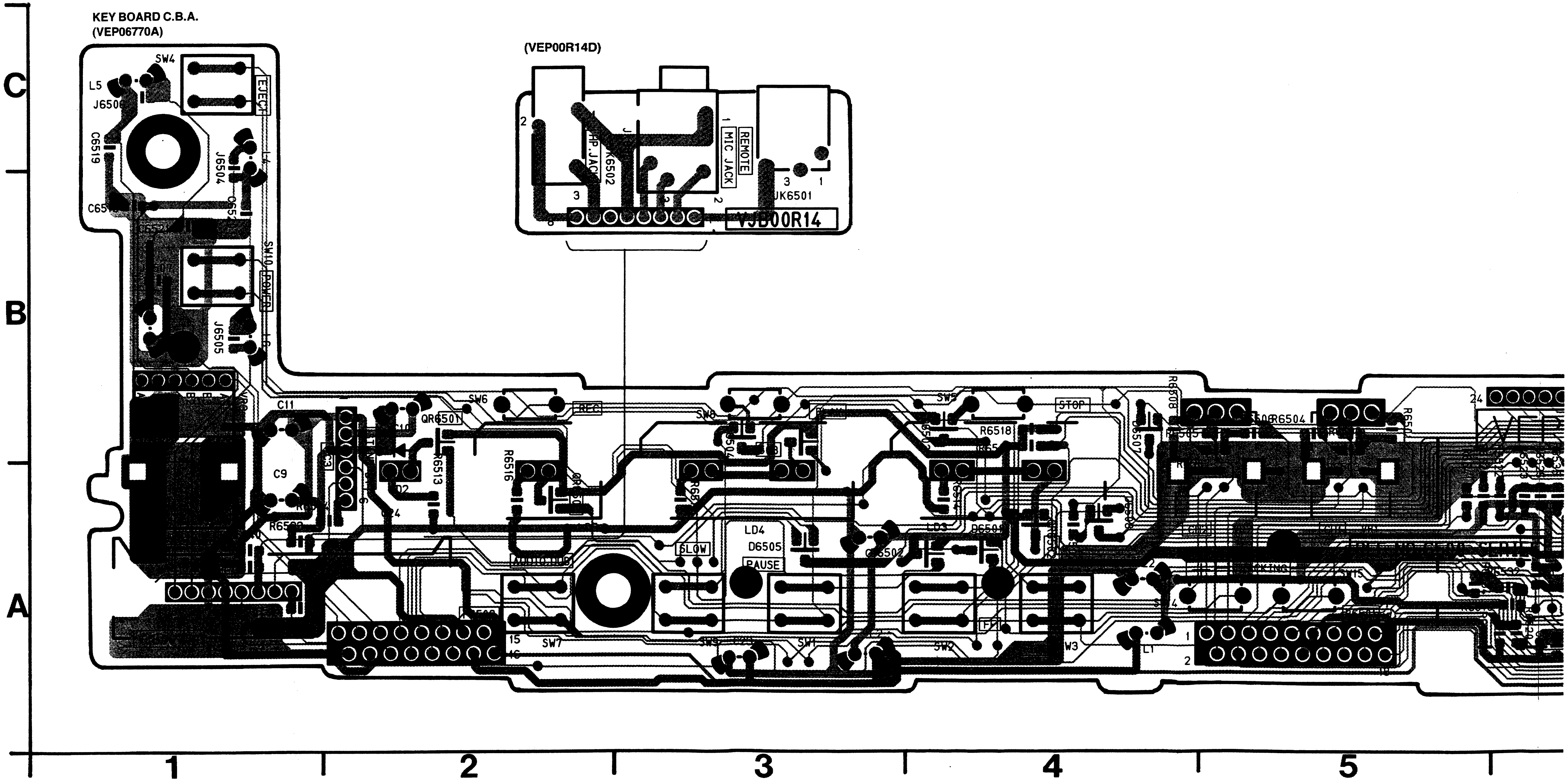
ADDRESS INFORMATION


A
VEP06776
D2
D1
C2
W1
W2
D5
P6601
MOTOR REG
CIRCUIT
C2
R1
C1
QR2
W5
C0
KTG-N8V-0
REF.NO.6600SERIES
1 2 3 4 5

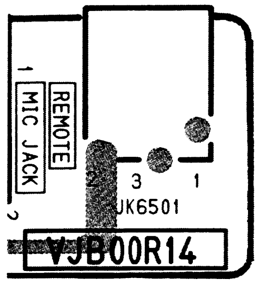
MOTOR REGULATOR SCHEMATIC DIAGRAM

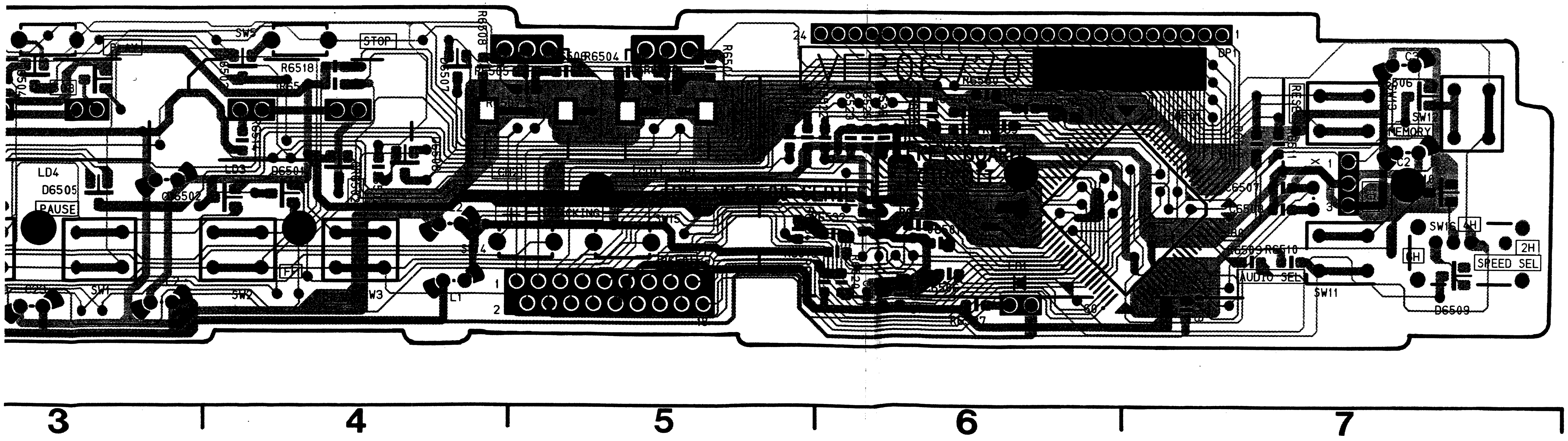

C
B
A
P6601 VJP1234
1 REV REG OUT
2 CAP REG OUT
3 UN REG 14V
4 VM DOWN(H)
5 NORMAL ON(H)
6 SSS ON(H)
7 GND
D6605 11ES1
D6601 MA720
IC6601 M5N317L
I O C
C6601 0.1
R6601 240
D6602 MA151K
C6602 0.1
R6603 1800
D6603 MA720
IC6602 M5N317L
C6603 0.1
R6604 240
D6604 MA151K
C6604 0.1
R6605 10K
R6606 100
R6607 1800
R6608 100
R6609 3300
QR6602 MRN1403
QR6603 MRN1403
1 2 3

KEY BOARD C.B.A. (VEP06770A) AND REMOTE CONTROL JACK C.B.A. (VEP00R14D)

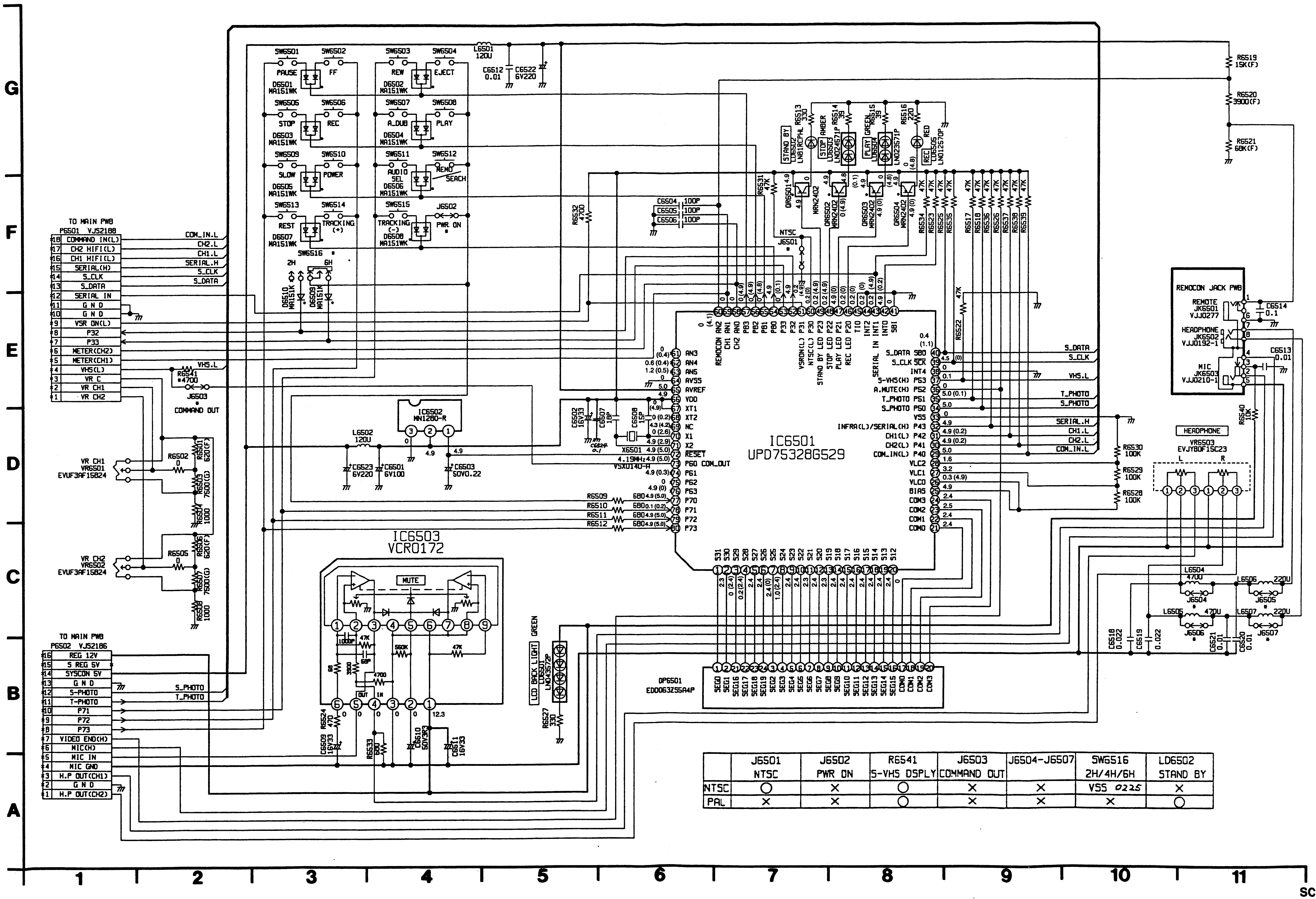

KEY BOARD C.B.A.
(VEP06770A)
(VEP00R14D)
C
B
A
1
2
3
4
5
SW4
L5
J6506
EJECT
C6519
J6504
L4
SW10
POWER
J6505
L6
C11
C9
QR6501
R6513
R6516
SW6
REC
SW8
SW5
STOP
R6518
R6508
D6507
R6504
LD4
D6505
SLOW
PAUSE
LD3
C6502
SW7
SW1
SW2
FF
W3
L1
HP.JACK
JK6502
MIC JACK
REMOTE
JK6501
VJB00R14
24

C.B.A. (VEP00R14D)


REMOTE
MIC JACK
3
1
JK6501
VJB00R14


SW5
STOP
R6518
R6508
D6507
R6505
R6504
24
1
VFR06770
CP1
R6530
RESET
MEMORY
SW12
LD4
D6505
PAUSE
LD3
D6501
C6502
C2
SW16
4H
2H
SPEED SEL
D6509
AUDIO SEL
SW11
SW1
SW2
SW3
FF
L1
1
2
3
4
5
6
7

KEY BOARD SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
SW6501
PAUSE
SW6502
FF
SW6503
REW
SW6504
EJECT
SW6505
STOP
SW6506
REC
SW6507
A_DUB
SW6508
PLAY
SW6509
SLOW
SW6510
POWER
SW6511
AUDIO SEL
SW6512
REMO SEACH
SW6513
REST
SW6514
TRACKING (+)
SW6515
TRACKING (-)
J6502
PWR ON
SW6516
2H
6H
D6501 MA151WK
D6502 MA151WK
D6503 MA151WK
D6504 MA151WK
D6505 MA151WK
D6506 MA151WK
D6507 MA151WK
D6508 MA151WK
D6509 MA151K
D6510 MA151K
L6501 120U
C6512 0.01
C6522 6V220
TO MAIN PWB
P6501 VJS2188
COMMAND IN(L)
CH2 HIFI(L)
CH1 HIFI(L)
SERIAL(H)
S_CLK
S_DATA
SERIAL IN
GND
VSR ON(L)
P32
P33
METER(CH2)
METER(CH1)
VHS(L)
VR C
VR CH1
VR CH2
COM_IN.L
CH2.L
CH1.L
SERIAL.H
S_CLK
S_DATA
R6541 *4700
J6503
COMMAND OUT
VR CH1 VR6501 EVUF3AF15B24
VR CH2 VR6502 EVUF3AF15B24
R6502 0
R6501 620(F)
R6503 7600(G)
R6504 1000
R6505 0
R6506 620(F)
R6507 7600(G)
R6508 1000
IC6502 MN1280-R
L6502 120U
C6523 6V220
C6501 6V100
C6503 50V0.22
IC6503 VCR0172
MUTE
R6524 470
C6509 16V33
R6533 680
C6510 50V3R3
C6511 16V33
TO MAIN PWB
P6502 VJS2186
REG 12V
S REG 5V
SYSCON 5V
GND
S-PHOTO
T-PHOTO
P71
P72
P73
VIDEO END(H)
MIC(H)
MIC IN
MIC GND
H.P OUT(CH1)
GND
H.P OUT(CH2)
S_PHOTO
T_PHOTO
R6532 4700
C6504 100P
C6505 100P
C6506 100P
C6502 16V33
C6507 18P
C6508 15P
X6501 4.19MHz VSX0140-H
R6509 680
R6510 680
R6511 680
R6512 680
IC6501
UPD75328G529
AN3
AN4
AN5
AVSS
AVREF
VDD
XT1
XT2
NC
X1
X2
RESET
P60 COM_OUT
P61
P62
P63
P70
P71
P72
P73
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CH2 AN0
PB2
PB1
PB0
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STOP LED P22
PLAY LED P21
REC LED P20
TI0
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INT1
INT0
SBI
S_DATA SB0
S_CLK SCK
INT4
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T_PHOTO P51
S_PHOTO P50
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CH2(L) P41
COM_IN(L) P40
VLC2
VLC1
VLC0
BIAS
COM3
COM2
COM1
COM0
NTSC
J6501
R6531 47K
QR6501 MRN2402
QR6502 MRN2402
QR6503 MRN2402
QR6504 MRN2402
R6513 330
R6514 39
R6515 39
R6516 220
STAND BY LD6502 LN81RCPHL
STOP LD6503 LN02467IP AMBER
PLAY LD6504 LN02357IP GREEN
REC LD6505 LN01257OP RED
R6534 47K
R6523 47K
R6525 47K
R6535 47K
R6517 47K
R6518 47K
R6536 47K
R6526 47K
R6537 47K
R6538 47K
R6539 47K
R6522 47K
R6519 15K(F)
R6520 3900(F)
R6521 68K(F)
REMOCON JACK PWB
REMOTE JK6501 VJJ0277
HEADPHONE JK6502 VJJ0192-1
MIC JK6503 VJJ0210-1
C6514 0.1
C6513 0.01
R6540 10K
R6530 100K
R6529 100K
R6528 100K
HEADPHONE
VR6503 EVJY80F15C23
L
R
L6504 4700
J6504
L6506 220U
J6505
L6505 470U
J6506
L6507 220U
J6507
C6518 0.022
C6519 0.022
C6521 0.01
C6520 0.01
LCD BACK LIGHT LD6501 LN04357P GREEN
R6527 330
DP6501 ED0063Z55A4P
S31
S30
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SEG0
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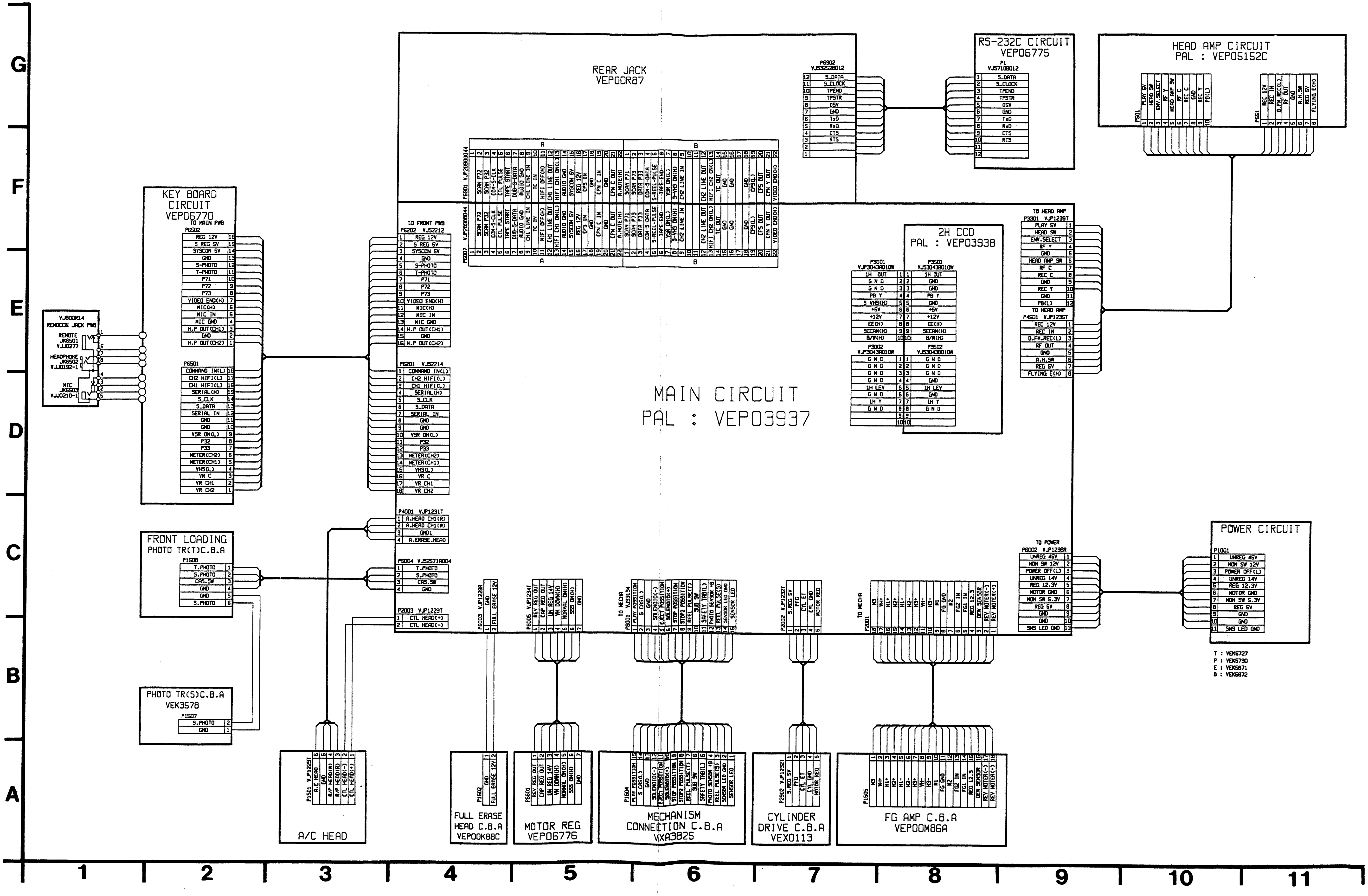
SEG10
SEG11
SEG12
SEG13
SEG14
SEG15
COM0
COM1
COM2
COM3

	J6501 NTSC	J6502 PWR ON	R6541 S-VHS DSPLY	J6503 COMMAND OUT	J6504-J6507	SW6516 2H/4H/6H	LD6502 STAND BY
NTSC	○	×	○	×	×	VSS 0225	×
PAL	×	×	○	×	×	×	○

INTERCONNECTION SCHEMATIC DIAGRAM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REAR JACK
VEP00R87
RS-232C CIRCUIT
VEP06775
HEAD AMP CIRCUIT
PAL : VEP05152C
KEY BOARD CIRCUIT
VEP06770
TO MAIN PWB
P6502
P6501
VJB00R14
REMOCON JACK PWB
REMOTE JK6501 VJJ0277
HEADPHONE JK6502 VJJ0192-1
MIC JK6503 VJJ0210-1
TO FRONT PWB
P6202 VJS2212
P6201 VJS2214
P6901 VJP2898044
P6007 VJP2898044
P6902 VJS3252B012
P1 VJS7108012
2H CCD
PAL : VEP03938
P3001 VJP3043A010W
P3501 VJS3043B010W
P3002 VJP3043A010W
P3502 VJS3043B010W
MAIN CIRCUIT
PAL : VEP03937
TO HEAD AMP
P3301 VJP1233T
P4501 VJP1235T
P4001 VJP1231T
P6004 VJS2571A004
P2003 VJP1229T
FRONT LOADING
PHOTO TR(T)C.B.A
P1508
PHOTO TR(S)C.B.A
VEK3578
P1507
TO POWER
P6002 VJP1238R
POWER CIRCUIT
P1001
T : VEK5727
P : VEK5730
E : VEK5871
B : VEK5872
P6003 VJP1229R
P6005 VJP1234T
TO MECHA
P6001 VJS3134
P2002 VJP1232T
TO MECHA
P2001
P1501 VJP1229T
A/C HEAD
P1502
FULL ERASE HEAD C.B.A
VEP00K88C
P6601
MOTOR REG
VEP06776
P1504
MECHANISM CONNECTION C.B.A
VXA3825
P2902 VJP1232T
CYLINDER DRIVE C.B.A
VEX0113
P1505
FG AMP C.B.A
VEP00M86A

Section 5

EXPLODED VIEWS
and
REPLACEMENT PARTS LIST

CONTENTS

SERVICING FIXTURE AND TOOLS LIST PARTS-2

EXPRODED VIEWS PARTS-3

❶ Chassis Parts Section PARTS-3

❷ Moving Mechanism Section PARTS-5

❸ Cassette Compartment Section PARTS-7

❹ Casing parts Section PARTS-8

❺ Packing Parts Section PARTS-10

MECHANICAL REPLACEMENT PARTS LIST

1 Chassis Parts Section PARTS-4

2 Moving Mechanism Section PARTS-6

3 Cassette Compartment Section PARTS-6

4 Casing Parts Section PARTS-9

5 Packing Parts Section PARTS-9

ELECTRICAL REPLACEMENT PARTS LIST PARTS-11

Notes:

1. •Be sure to make your orders of replacement parts according to this list.
   •"<R>" in Remark column indicates recommended parts.
   •"<M>" in Remark column indicates needed in the periodical maintenance.
2. IMPORTANT SAFETY NOTICE
   Components identified by "!" have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
   Meaning of symbol "!" on this parts list is exactly the same as symbol ⚠ on Schematic and Circuit Board Diagrams.
3. Unless otherwise specified;
   All resistors are in OHMS (Ω) , K=1,000Ω, M=1,000kΩ.
4. ITEM NUMBERS WITH CAPITAL LETER E
   Item numbers with capital leter E (Example:E1,E2,...) in Ref.No. column mean that the parts are listed with the E item numbers in the exploded views.
5. The main assembled parts are shown below C.B.A. marked with "■"
6. When ordering parts, use parts No. only from Part No. column.
7. Printed circuit board assembly with mark (NLA) is no longer available after discontinuation of the product.

SERVICING FIXTURE AND TOOLS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VFM8180HADA	VHS ALIGNMENT TAPE	1	
		VFK0191	POST ADJUSTMENT PLATE	1	
		VFK0387	TENSION POST ADJ. FIXTURE	1	
		VFK0190	REEL TABLE HEIGHT FIXTURE	1	
		VFK0132	BACK TENSION METER	1	
		VFK66	FAN TYPE TENSION GAUGE	1	
		VFK0343	CHECK LIGHT	1	
		VFK0328	H-POSITION ADJ. SCREWDRIVER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VFK0329	POST ADJ. SCREWDRIVER	1	
		VFK0335	RETAINING RING REMOVER	1	
		VFK0269	L TYPE SCREWDRIVER	1	
		VFK0326	HEX. WRENCH SET	1	
		VFK0344	POST HEIGHT ADJ. FIXTURE	1	
		VFK27	HEAD CLEANING STICK	1	
		MOR265	MORLYTONE GREASE (BLACK)	1	
		VFK0680	S.C.R. GREASE (WHITE)	1	
		VFK0773	EXTENDER CABLE	1	

MECHANICAL REPLACEMENT PARTS LIST

1. Chassis Parts Section

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1-1		VMA7174	HEAD AMP MOUNT ANGLE	1	
1-2		VXA3564	REEL MOTOR BRACKET UNIT	1	
1-3		VXA3815	MOTOR MOUMT PLATE UNIT	1	
1-4		VWJ15B	FLEXIBLE CARD (15P)	1	
1-5		VWJ18B	FLEXIBLE CABLE (18P)	1	
1-6		VXA3517	WORM WHEEL BEARING UNIT	1	
1-7		VXP1208	WORM GEAR UNIT	1	
1-8		VXA3513	REV MOTOR UNIT	1	<R><M>
1-9		VMB1251	ADJUST SPRING	1	
1-10		VED0097	A/C HEAD UNIT	1	<R><M>
1-11		VHN0063	M4 NYLON NUT	1	
1-12		VMA7831	HEAD BASE	1	
1-13		VHN0110	ADJUST NUT	1	
1-14		VXA4315	TENSION PULLEY BASE (A)	1	
			UNIT		
1-16		VXQ0006	THRUST SCREW UNIT	1	
1-17		VXD0101	HOUSING UNIT	1	
1-18		VMX1353	PINCH CAM CAP	1	
1-19		VXL1858	PRESSURE ROLLER UNIT	1	<R><M>
1-20		VMB1941	PINCH PRESSURE SPRING	1	
1-21		VML2232	PINCEH PRESSURE ARM	1	
1-22		VMB1569	PINCH PRESSURE ARM	1	
			RELEASE SPRING		
1-23		VML1874	PINCH LIFT ARM	1	
1-24		VDG0421	PINCH CAM	1	
1-25		VDG0597	P5 PULL OUT SECTOR GEAR	1	
1-26		VMB1567	A/C HEAD SPRING	1	<R>
1-27		VXA2702	ERATH PLATE UNIT	1	<R><M>
1-28		VWJ15TW060M	FLEXIBLE CARD (15P)	1	
1-29		VXL1856	SUB LOADING ARM UNIT	1	
1-30		VMB1566	SUB POST SPRING	1	
1-31		VHD0045	M3 NYLON NUT	1	
1-32		VXL2027	P5 ARM UNIT	1	
1-33		VMB2718	P5 SPRING	1	
1-34		VXL1854	TENSION ARM UNIT	1	
1-35		VMB1563	TENSION SPRING	1	
1-36		VXZ0267	TENSION BAND UNIT	1	<R><M>
1-37		VEG0769	CYLINDER UNIT	1	<R><M>
1-38		VEG0555	UPPER CYLINDER UNIT	1	<R><M>
1-39		VHD0553	UPPER CYLINDER SCREW	2	
1-41		VXP0863	ROLLER POST (S) UNIT	1	
1-42		VXA3712	INCLIND BASE (S) UNIT	1	<R><M>
1-43		VMD0910	POST STOPPER	2	
1-44		VXP1094	ROLLER POST (T) UNIT	1	
1-45		VXA3713	INCLIND BASE (T) UNIT	1	<R><M>
1-46		VXA2687	INCLIND ADJUST PLATE UNIT	1	
1-47		VXA3520	LED HOLDER UNIT	1	
1-48		VXR0179	SUPPLY REEL TABLE UNIT	1	<R><M>
1-49		VMX1088	SUPPLY UPPER LIMITER	1	
1-50		VDP1072	SUPPLY ROLLER	1	
1-51		VMX1581	P1 COLLAR	1	
1-52		VMX1533	SUPPLY LOWER LIMITER	1	
1-53		VMD1316	TENSION SPRING HOOK	1	
1-54		VED0084	FE HEAD UNIT	1	<R><M>
1-55		VXR0176	TAKE UP REEL TABLE UNIT	1	<R><M>
1-56		VMA6895	MOUNT ANGLE (L)	1	
1-57		VES0486	SAFETY SW	1	
1-58		VMB2012	MAIN BRAKE SPRING	1	
1-59		VMX0259	SUPPLY MAIN BRAKE UNIT	1	<R><M>
1-60		VX20274	SUPPLY SOFT BRAKE UNIT	1	<R>
1-61		VMB1564	SUPPLY SOFT BRAKE SPRING	1	<R>
1-62		VX20261	TAKE UP MAIN BRAKE UNIT	1	<R><M>
1-63		VMA6896	MOUNT ANGLE (R)	1	
1-64		VSS0175A	MODE SW	1	<R><M>
1-67		VMX1544	P4 UPPER LIMITER	1	
1-68		VMX1568	P4 SLEEVE	1	
1-69		VMX1534	P4 LOWER LIMITER	1	
1-70		VDG0483	PINCH SPEED DOWN GEAR	1	
1-71		VEK3347	CONNECTION GEAR	1	
1-72		VXA3735	SOLENOID UNIT	1	
1-73		VMB1553	KICK ROD SPRING	1	
1-74		VXA2692	KICK ROD UNIT	1	
1-75		VXA2984	SOLENOID LEVER	1	
1-76		VMA8701	IMPEDANCE ROLLER SUPPORT	1	
			ANGLE		
1-77		VMB1741	IMPEDANCE ARM SPRING	1	
1-78		VML2308	IMPEDANCE ROLLER ARM	1	
1-79		VXP1092	IMPEDANCE ROLLER UNIT	1	
1-80		XTV3+8FFR	HEAD AMP SET SCREW	2	
1-81		XTV26+6F	SCREW	10	
1-82		XTV26+5F	SCREW	1	
1-83		VHD0322	ADJUST SCREW	1	<R>
1-84		VHD0089B	AZIMUTH ADJUST SCREW	1	<R>
1-85		XSN3D6FZ	SCREW	1	
1-86		VHD0317	HOUSING SCREW	2	
1-87		VHD0374	HOUSING SCREW	1	
1-88		XSS3+4S	SCREW	1	
1-89		VMX1734	WORM WASHER	1	
1-90		XTN3+6FFZ	SCREW	1	
1-91		XUEV25VW	WASGHER	1	
1-92		XYEV0005	SCREW	1	
1-93		XSB26+4FZ	SCREW	1	
1-94		XWE3VW	WASHER	1	
1-95		XTV26+10F	SCREW	5	
1-96		XUEV3VW	WASHER	1	
1-97		XTV26+6F	SCREW	1	
1-98		VMX1171	REEL WASHER (0.5mm)	2	<R>
1-98		VMX1239	REEL WASHER (0.3mm)	2	<R>
1-98		VMX1238	REEL WASHER (0.2mm)	2	<R>
1-99		VHD0133	ROLLER POST SCREW	2	
1-100		XTVV0002	SCREW	1	
1-101		XTV26+8FFY	SCREW	1	
1-102		VMX1079	CUT WASHER	1	
1-103		VHD0342	CYLINDER SCREW	3	
1-104		XTVV0004	SCREW	1	
1-105		XTV3+6F	SCREW	1	

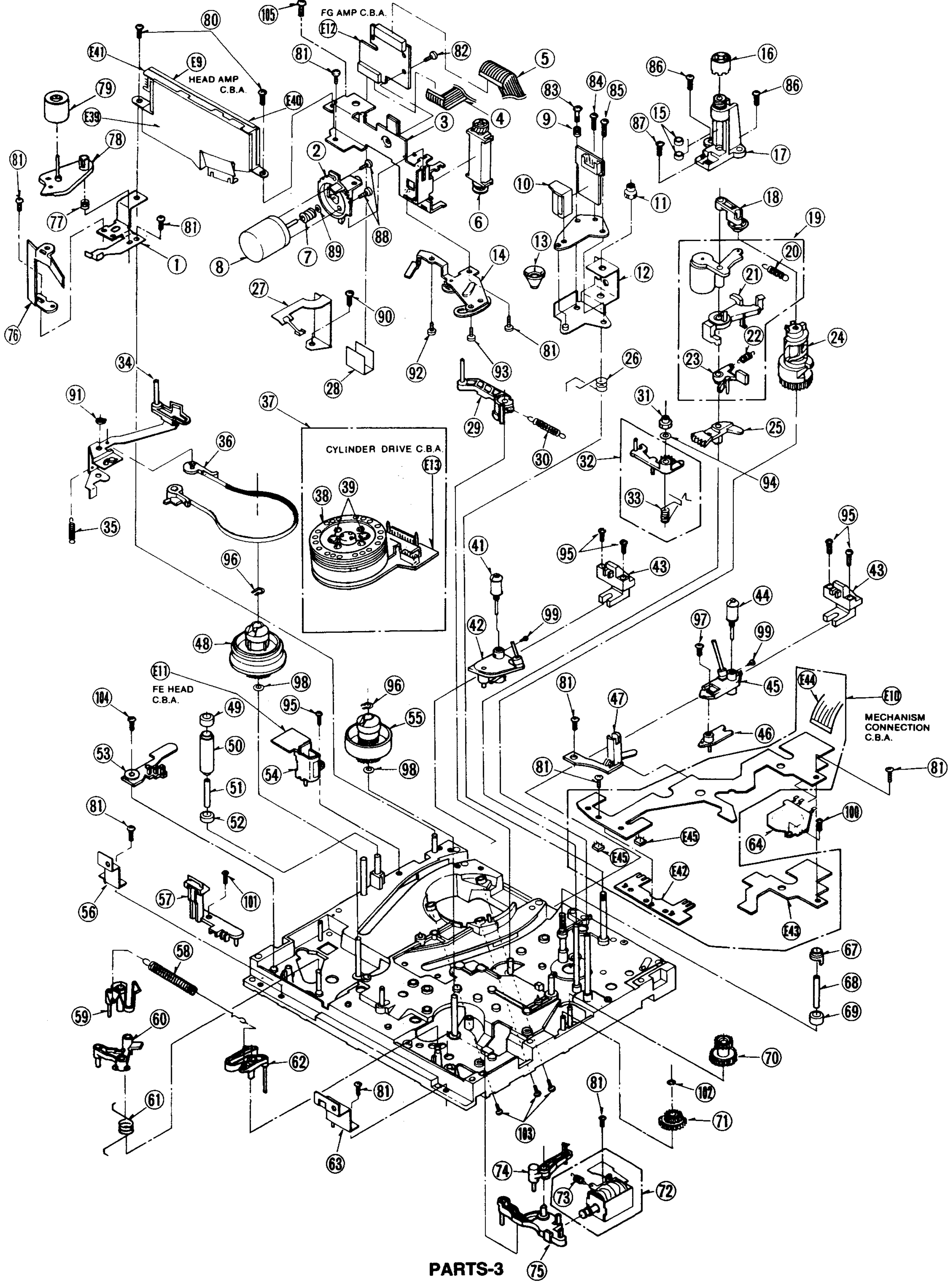
2. Moving Mechanism Section

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
2-1		VMB1883	SUB LEVER SPRING	1	
2-2		VXA3510	SUB LEVER UNIT	1	
2-3		VXL1853	MAIN LEVER UNIT	1	
2-4		VHN0102	STATOR NUT	1	
2-5		VHD0431	STATOR SPACER SCREW	1	
2-6		VXP1113	ROTOR UNIT	1	<R><M>
2-7		VDV0169	TIMING BELT	1	<R><M>
2-8		VEK4097	STATOR UNIT	1	<R>
2-9		VBK0048	FG HEAD	1	
2-10		VMA6847	SUB PLATE	1	
2-11		VXP1050	CENTRE PULLEY UNIT	1	
2-12		VXA3516	TENSION ROLLER UNIT	1	
2-13		VXL2088	SS BRAKE ARM UNIT	1	
2-14		VMB1588	SS BRAKE SPRING	1	
2-15		VXA3512	SS BRAKE BASE UNIT	1	
2-16		VXL1632	CAM FOLLOWER ARM UNIT	1	
2-17		VML1861	DETENT ARM	1	
2-18		VDG0574	MAIN CAM GEAR	1	<R><M>
2-19		VDG0343	SUB CAM GEAR	1	
2-20		VDG0348	CENTRE GEAR	1	
2-21		VXP0878	RETAINER GEAR UNIT	1	
2-22		VDG0345	PLANET GEAR	3	
2-23		VDG0342	RING GEAR	1	
2-24		VXP1049	CLUTCH DISK UNIT	1	
2-25		VMB1558	CLUTCH SPRING	1	
2-26		VDG0350	LOCK SLIDE GEAR	1	
2-27		VDG0335	DRIVE DISK	1	
2-28		VDG0564	LOADING GEAR (T)	1	
2-29		VMB1555	LOADING SPRING (T)	1	
2-30		VXL1860	LOADING ARM (T) UNIT	1	
2-31		VXA3515	SECTOR GEAR UNIT	1	
2-32		VDG0516	LOADING CAM GEAR	1	<R><M>
2-33		VDG0419	LOADING GEAR (S)	1	
2-34		VMB1746	LOADING SPRING (S)	1	
2-35		VXL1630	LOADING ARM (S) UNIT	1	
2-36		VDG0546	INTERMEDIATE GEAR	1	
2-37		VXL1861	PLAY ARM UNIT	1	
2-38		VML2266	PLAY CONTROL ARM	1	
2-39		VML1859	CHANGE LEVER	1	
2-40		VXA2671	RELEASE LEVER UNIT	1	
2-41		VMB1557	RELEASE SPRING	1	
2-42		VXA2671	RELEASE LEVER UNIT	1	
2-43		VML1858	RETURN LEVER (R)	1	
2-44		VXP1031	TAKE UP REEL GEAR UNIT	1	
2-45		VXP0981	SUPPLY REEL GEAR UNIT	1	
2-46		VXA2694	STOPPER BASE UNIT	1	
2-47		VML1857	RETURN LEVER (L)	1	
2-48		VXP1030	TENSION RELEASE CLUTCH UNIT	1	
2-49		VXP1029	REVIEW CLUTCH UNIT	1	
2-50		VDV0199	REVIEW CLUTCH TIMING BELT	1	<R><M>
2-51		VML2197	TENSION RELEASE LEVER	1	
2-52		VML2200	REVIEW CONTROL LEVER	1	
2-53		VXL1851	REVIEW ARM UNIT	1	
2-54		VDG0517	SUB LEVER CAM	1	
2-55		VML2233	SUB CAM FOLLOWER	1	
2-56		VMX1495	RUBBER STOPPER	1	
2-60		VMX1079	CUT WASHER	8	
2-61		XYNV0015	SCREW	1	
2-62		XYEV0004	SCREW	1	
2-63		XSB26+4FZ	SCREW	1	
2-64		XUEV3VW	WASHER	3	
2-65		XTV26+6F	SCREW	2	
2-66		VMX0967	CUT WASHER	2	
2-67		XTVV0002	SCREW	1	
2-68		VMX1536	CUT WASHER	1	

3. Cassette Compartment Section

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
3-1		VMA7223	TOP PLATE	1	<R>
3-2		VMA7224	CASSETTE HOLDER ANGLE	1	
3-3		VXA4325	CASSETTE HOLDER UNIT	1	
3-4		VXA4357	SIDE PLATE (L) UNIT	1	
3-5		VMD1726	SIDE PLATE (L)	1	
3-6		VML1880	OPENER LEVER	1	
3-7		VXA4076	SIDE PLATE (R) UNIT	1	
3-8		VXA4642	SLIDE SW UNIT	1	
3-9		VMB1836	SUB WIPER SPRING (L)	1	
3-10		VML1878	SUB WIPER ARM (L)	1	
3-11		VXP0987	MAIN SHAFT UNIT	1	
3-12		VML1879	SUB WIPER ARM (R)	1	
3-13		VMB1837	SUB WIPER SPRING (R)	1	
3-14		VMA6900	CASSETTE GUIDE	1	
3-15		VKF1464	BLINDER PANEL	1	
3-16		VMB1258	BLINDER SPRING	1	
3-20		XTB26+8G	SCREW	2	
3-21		XTV26+5F	SCREW	1	
3-22		XTV26+8FR	SCREW	4	

❶ *Chassis Parts Section*


HEAD AMP C.B.A.
FG AMP C.B.A.
CYLINDER DRIVE C.B.A.
FE HEAD C.B.A.
MECHANISM CONNECTION C.B.A.
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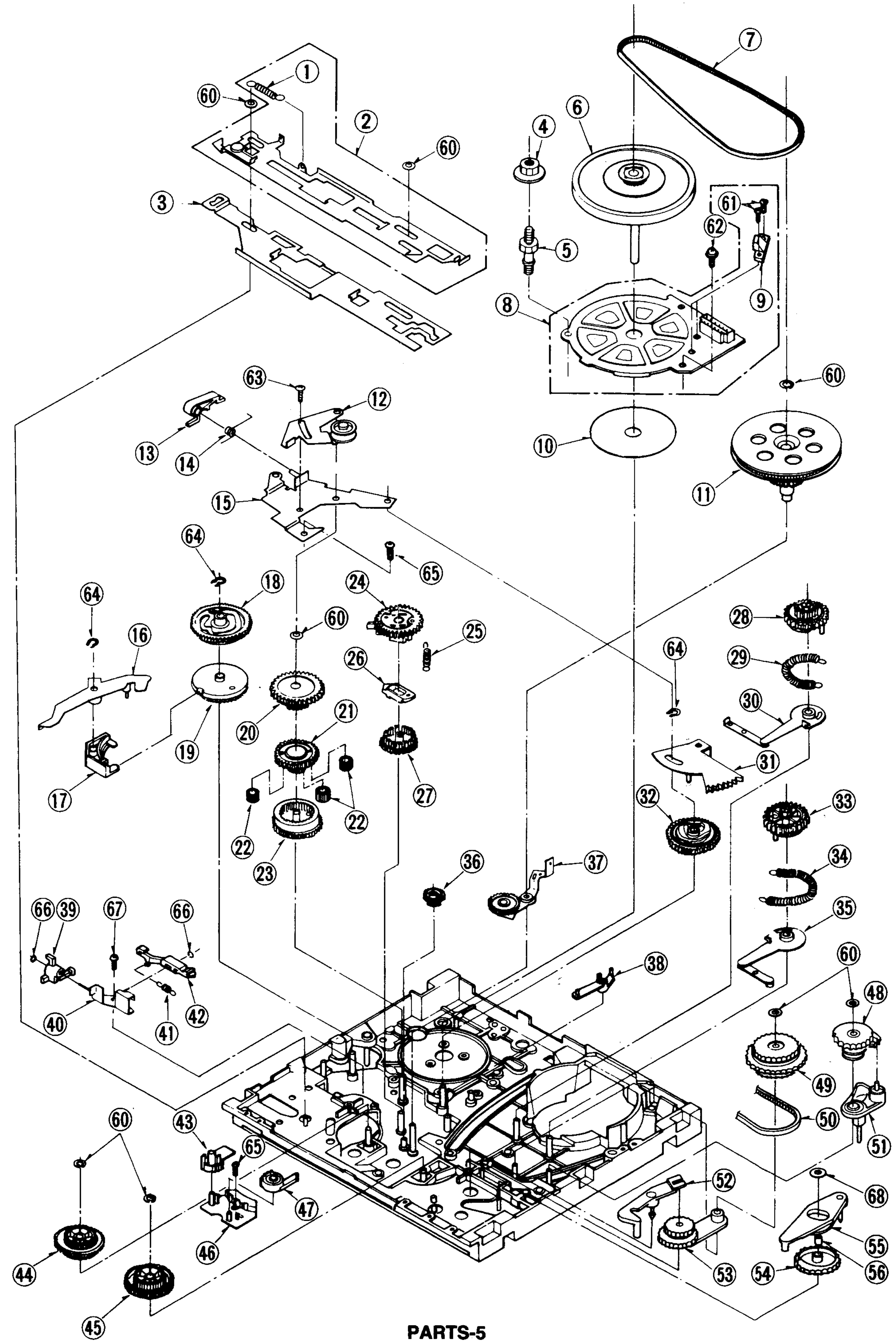
MECHANICAL REPLACEMENT PARTS LIST

1. Chassis Parts Section

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1-1		VMA7174	HEAD AMP MOUNT ANGLE	1	
1-2		VXA3564	REEL MOTOR BRACKET UNIT	1	
1-3		VXA3815	MOTOR MOUMT PLATE UNIT	1	
1-4		VWJ15B	FLEXIBLE CARD (15P)	1	
1-5		VWJ18B	FLEXIBLE CABLE (18P)	1	
1-6		VXA3517	WORM WHEEL BEARING UNIT	1	
1-7		VXP1208	WORM GEAR UNIT	1	
1-8		VXA3513	REV MOTOR UNIT	1	<R><M>
1-9		VMB1251	ADJUST SPRING	1	
1-10		VED0097	A/C HEAD UNIT	1	<R><M>
1-11		VHN0063	M4 NYLON NUT	1	
1-12		VMA7831	HEAD BASE	1	
1-13		VHN0110	ADJUST NUT	1	
1-14		VXA4315	TENSION PULLEY BASE (A)	1	
			UNIT		
1-16		VXQ0006	THRUST SCREW UNIT	1	
1-17		VXD0101	HOUSING UNIT	1	
1-18		VMX1353	PINCH CAM CAP	1	
1-19		VXL1858	PRESSURE ROLLER UNIT	1	<R><M>
1-20		VMB1941	PINCH PRESSURE SPRING	1	
1-21		VML2232	PINCEH PRESSURE ARM	1	
1-22		VMB1569	PINCH PRESSURE ARM	1	
			RELEASE SPRING		
1-23		VML1874	PINCH LIFT ARM	1	
1-24		VDG0421	PINCH CAM	1	
1-25		VDG0597	P5 PULL OUT SECTOR GEAR	1	
1-26		VMB1567	A/C HEAD SPRING	1	<R>
1-27		VXA2702	ERATH PLATE UNIT	1	<R><M>
1-28		VWJ15TW060M	FLEXIBLE CARD (15P)	1	
1-29		VXL1856	SUB LOADING ARM UNIT	1	
1-30		VMB1566	SUB POST SPRING	1	
1-31		VHD0045	M3 NYLON NUT	1	
1-32		VXL2027	P5 ARM UNIT	1	
1-33		VMB2718	P5 SPRING	1	
1-34		VXL1854	TENSION ARM UNIT	1	
1-35		VMB1563	TENSION SPRING	1	
1-36		VX20267	TENSION BAND UNIT	1	<R><M>
1-37		VEG0769	CYLINDER UNIT	1	<R><M>
1-38		VEG0555	UPPER CYLINDER UNIT	1	<R><M>
1-39		VHD0553	UPPER CYLINDER SCREW	2	
1-41		VXP0863	ROLLER POST (S) UNIT	1	
1-42		VXA3712	INCLIND BASE (S) UNIT	1	<R><M>
1-43		VMD0910	POST STOPPER	2	
1-44		VXP1094	ROLLER POST (T) UNIT	1	
1-45		VXA3713	INCLIND BASE (T) UNIT	1	<R><M>
1-46		VXA2687	INCLIND ADJUST PLATE UNIT	1	
1-47		VXA3520	LED HOLDER UNIT	1	
1-48		VXR0179	SUPPLY REEL TABLE UNIT	1	<R><M>
1-49		VMX1088	SUPPLY UPPER LIMITER	1	
1-50		VDP1072	SUPPLY ROLLER	1	
1-51		VMX1581	P1 COLLAR	1	
1-52		VMX1533	SUPPLY LOWER LIMITER	1	
1-53		VMD1316	TENSION SPRING HOOK	1	
1-54		VED0084	FE HEAD UNIT	1	<R><M>
1-55		VXR0176	TAKE UP REEL TABLE UNIT	1	<R><M>
1-56		VMA6895	MOUNT ANGLE (L)	1	
1-57		VES0486	SAFETY SW	1	
1-58		VMB2012	MAIN BRAKE SPRING	1	
1-59		VMX0259	SUPPLY MAIN BRAKE UNIT	1	<R><M>
1-60		VX20274	SUPPLY SOFT BRAKE UNIT	1	<R>
1-61		VMB1564	SUPPLY SOFT BRAKE SPRING	1	<R>
1-62		VX20261	TAKE UP MAIN BRAKE UNIT	1	<R><M>
1-63		VMA6896	MOUNT ANGLE (R)	1	
1-64		VSS0175A	MODE SW	1	<R><M>
1-67		VMX1544	P4 UPPER LIMITER	1	
1-68		VMX1568	P4 SLEEVE	1	
1-69		VMX1534	P4 LOWER LIMITER	1	
1-70		VDG0483	PINCH SPEED DOWN GEAR	1	
1-71		VEK3347	CONNECTION GEAR	1	
1-72		VXA3735	SOLENOID UNIT	1	
1-73		VMB1553	KICK ROD SPRING	1	
1-74		VXA2692	KICK ROD UNIT	1	
1-75		VXA2984	SOLENOID LEVER	1	
1-76		VMA8701	IMPEDANCE ROLLER SUPPORT	1	
			ANGLE		
1-77		VMB1741	IMPEDANCE ARM SPRING	1	
1-78		VML2308	IMPEDANCE ROLLER ARM	1	
1-79		VXP1092	IMPEDANCE ROLLER UNIT	1	
1-80		XTV3+8FFR	HEAD AMP SET SCREW	2	
1-81		XTV26+6F	SCREW	10	
1-82		XTV26+5F	SCREW	1	
1-83		VHD0322	ADJUST SCREW	1	<R>
1-84		VHD0089B	AZIMUTH ADJUST SCREW	1	<R>
1-85		XSN3D6FZ	SCREW	1	
1-86		VHD0317	HOUSING SCREW	2	
1-87		VHD0374	HOUSING SCREW	1	
1-88		XSS3+4S	SCREW	1	
1-89		VMX1734	WORM WASHER	1	
1-90		XTN3+6FFZ	SCREW	1	
1-91		XUEV25VW	WASGHER	1	
1-92		XYEV0005	SCREW	1	
1-93		XSB26+4FZ	SCREW	1	
1-94		XWE3VW	WASHER	1	
1-95		XTV26+10F	SCREW	5	
1-96		XUEV3VW	WASHER	1	
1-97		XTV26+6F	SCREW	1	
1-98		VMX1171	REEL WASHER (0.5mm)	2	<R>
1-98		VMX1239	REEL WASHER (0.3mm)	2	<R>
1-98		VMX1238	REEL WASHER (0.2mm)	2	<R>
1-99		VHD0133	ROLLER POST SCREW	2	
1-100		XTVV0002	SCREW	1	
1-101		XTV26+8FFY	SCREW	1	
1-102		VMX1079	CUT WASHER	1	
1-103		VHD0342	CYLINDER SCREW	3	
1-104		XTVV0004	SCREW	1	
1-105		XTV3+6F	SCREW	1	

❷ *Moving Mechanism Section*



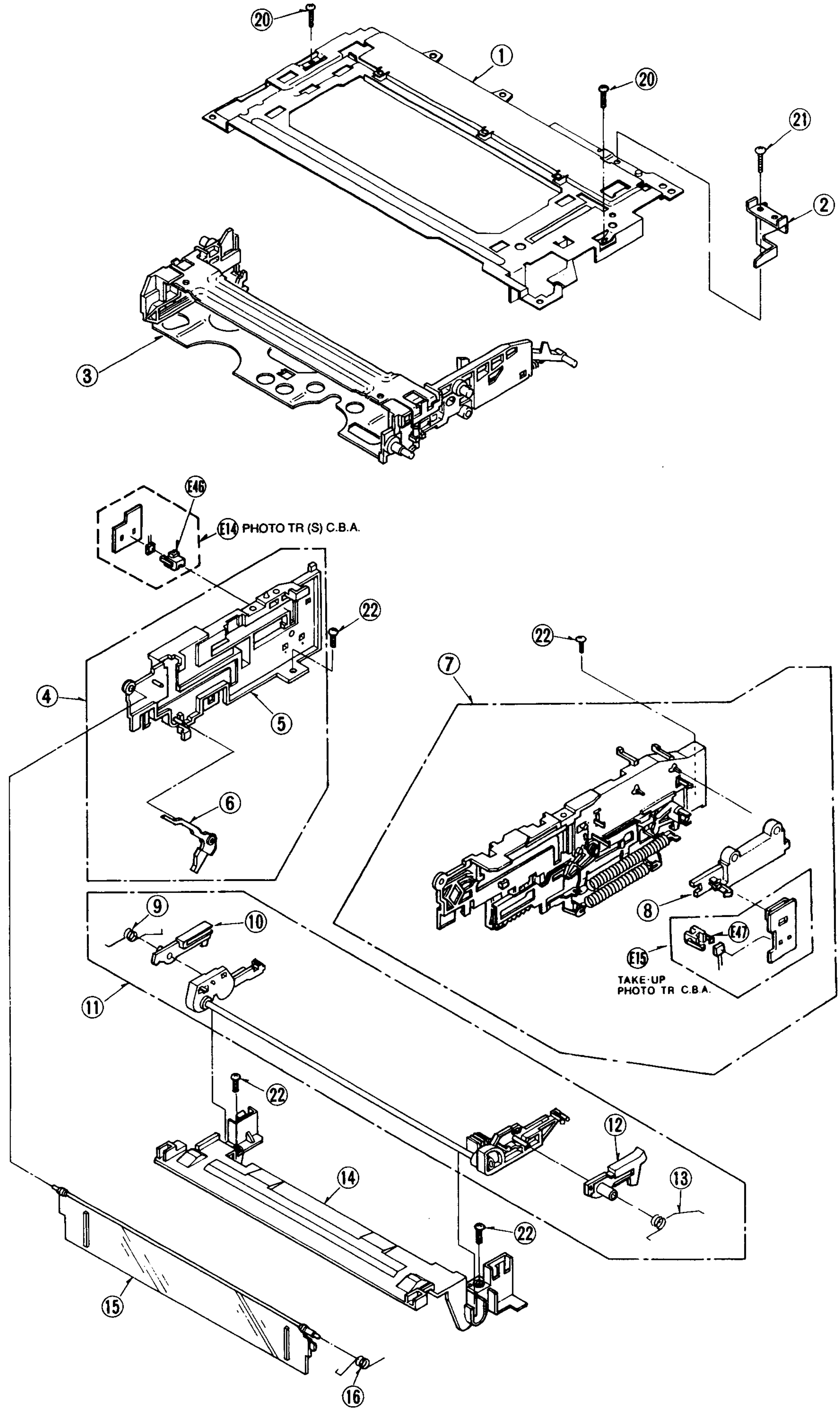
2. Moving Mechanism Section

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
2-1		VMB1883	SUB LEVER SPRING	1	
2-2		VXA3510	SUB LEVER UNIT	1	
2-3		VXL1853	MAIN LEVER UNIT	1	
2-4		VHN0102	STATOR NUT	1	
2-5		VHD0431	STATOR SPACER SCREW	1	
2-6		VXP1113	ROTOR UNIT	1	<R><M>
2-7		VDV0169	TIMING BELT	1	<R><M>
2-8		VEK4097	STATOR UNIT	1	<R>
2-9		VBK0048	FG HEAD	1	
2-10		VMA6847	SUB PLATE	1	
2-11		VXP1050	CENTRE PULLEY UNIT	1	
2-12		VXA3516	TENSION ROLLER UNIT	1	
2-13		VXL2088	SS BRAKE ARM UNIT	1	
2-14		VMB1588	SS BRAKE SPRING	1	
2-15		VXA3512	SS BRAKE BASE UNIT	1	
2-16		VXL1632	CAM FOLLOWER ARM UNIT	1	
2-17		VML1861	DETENT ARM	1	
2-18		VDG0574	MAIN CAM GEAR	1	<R><M>
2-19		VDG0343	SUB CAM GEAR	1	
2-20		VDG0348	CENTRE GEAR	1	
2-21		VXP0878	RETAINER GEAR UNIT	1	
2-22		VDG0345	PLANET GEAR	3	
2-23		VDG0342	RING GEAR	1	
2-24		VXP1049	CLUTCH DISK UNIT	1	
2-25		VMB1558	CLUTCH SPRING	1	
2-26		VDG0350	LOCK SLIDE GEAR	1	
2-27		VDG0335	DRIVE DISK	1	
2-28		VDG0564	LOADING GEAR (T)	1	
2-29		VMB1555	LOADING SPRING (T)	1	
2-30		VXL1860	LOADING ARM (T) UNIT	1	
2-31		VXA3515	SECTOR GEAR UNIT	1	
2-32		VDG0516	LOADING CAM GEAR	1	<R><M>
2-33		VDG0419	LOADING GEAR (S)	1	
2-34		VMB1746	LOADING SPRING (S)	1	
2-35		VXL1630	LOADING ARM (S) UNIT	1	
2-36		VDG0546	INTERMEDIATE GEAR	1	
2-37		VXL1861	PLAY ARM UNIT	1	
2-38		VML2266	PLAY CONTROL ARM	1	
2-39		VML1859	CHANGE LEVER	1	
2-40		VXA2671	RELEASE LEVER UNIT	1	
2-41		VMB1557	RELEASE SPRING	1	
2-42		VXA2671	RELEASE LEVER UNIT	1	
2-43		VML1858	RETURN LEVER (R)	1	
2-44		VXP1031	TAKE UP REEL GEAR UNIT	1	
2-45		VXP0981	SUPPLY REEL GEAR UNIT	1	
2-46		VXA2694	STOPPER BASE UNIT	1	
2-47		VML1857	RETURN LEVER (L)	1	
2-48		VXP1030	TENSION RELEASE CLUTCH UNIT	1	
2-49		VXP1029	REVIEW CLUTCH UNIT	1	
2-50		VDV0199	REVIEW CLUTCH TIMING BELT	1	<R><M>
2-51		VML2197	TENSION RELEASE LEVER	1	
2-52		VML2200	REVIEW CONTROL LEVER	1	
2-53		VXL1851	REVIEW ARM UNIT	1	
2-54		VDG0517	SUB LEVER CAM	1	
2-55		VML2233	SUB CAM FOLLOWER	1	
2-56		VMX1495	RUBBER STOPPER	1	
2-60		VMX1079	CUT WASHER	8	
2-61		XYNV0015	SCREW	1	
2-62		XYEV0004	SCREW	1	
2-63		XSB26+4FZ	SCREW	1	
2-64		XUEV3VW	WASHER	3	
2-65		XTV26+6F	SCREW	2	
2-66		VMX0967	CUT WASHER	2	
2-67		XTVV0002	SCREW	1	
2-68		VMX1536	CUT WASHER	1	

3. Cassette Compartment Section

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
3-1		VMA7223	TOP PLATE	1	<R>
3-2		VMA7224	CASSETTE HOLDER ANGLE	1	
3-3		VXA4325	CASSETTE HOLDER UNIT	1	
3-4		VXA4357	SIDE PLATE (L) UNIT	1	
3-5		VMD1726	SIDE PLATE (L)	1	
3-6		VML1880	OPENER LEVER	1	
3-7		VXA4076	SIDE PLATE (R) UNIT	1	
3-8		VXA4642	SLIDE SW UNIT	1	
3-9		VMB1836	SUB WIPER SPRING (L)	1	
3-10		VML1878	SUB WIPER ARM (L)	1	
3-11		VXP0987	MAIN SHAFT UNIT	1	
3-12		VML1879	SUB WIPER ARM (R)	1	
3-13		VMB1837	SUB WIPER SPRING (R)	1	
3-14		VMA6900	CASSETTE GUIDE	1	
3-15		VKF1464	BLINDER PANEL	1	
3-16		VMB1258	BLINDER SPRING	1	
3-20		XTB26+8G	SCREW	2	
3-21		XTV26+5F	SCREW	1	
3-22		XTV26+8FR	SCREW	4	

❸ Cassette Compartment Section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E46
E14 PHOTO TR (S) C.B.A.
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TAKE-UP PHOTO TR C.B.A.
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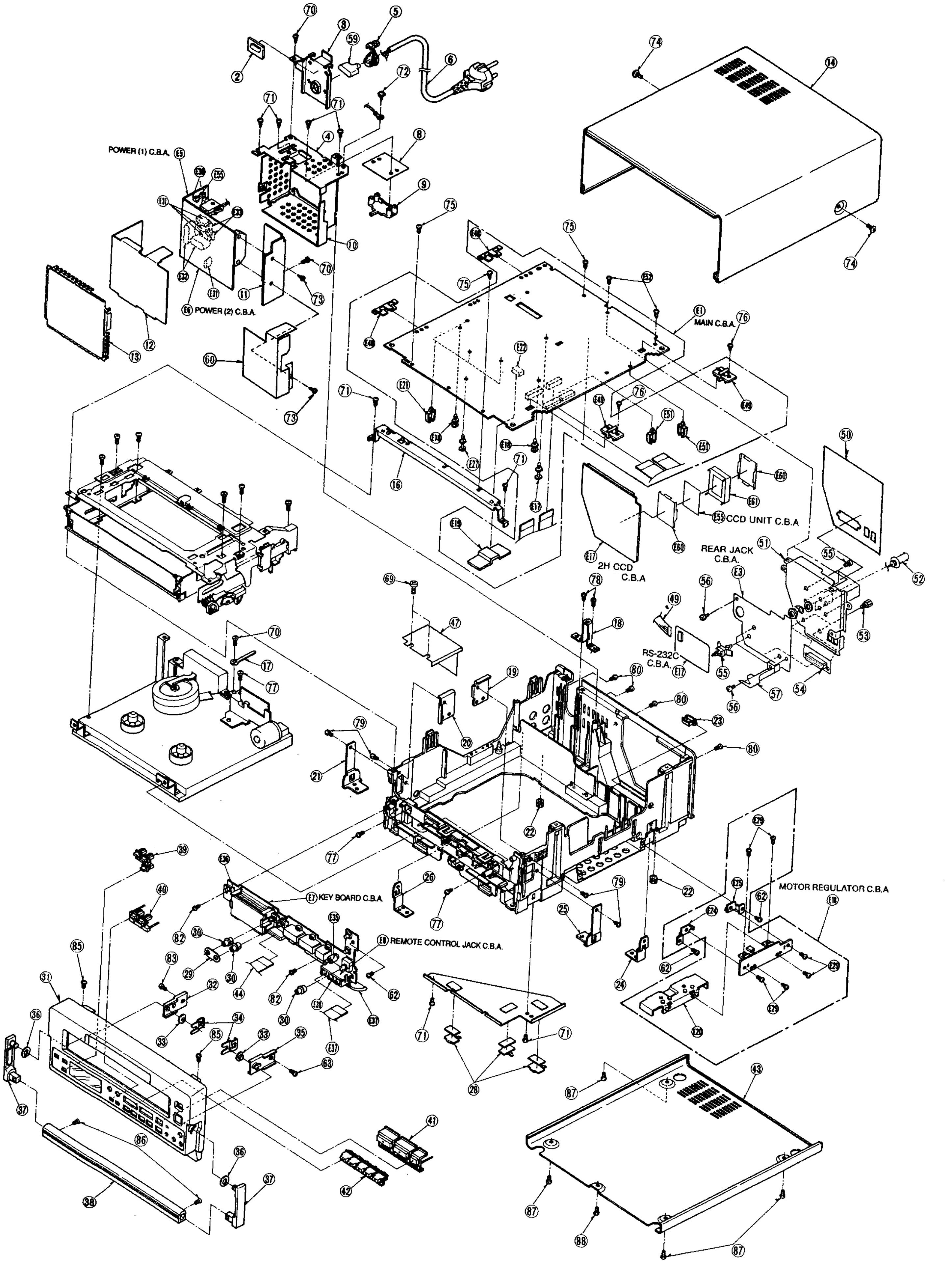
❹ Casing Parts Section



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POWER (1) C.B.A. E5
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E6 POWER (2) C.B.A.
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E40
E52
E1 MAIN C.B.A.
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E61
E55 CCD UNIT C.B.A
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E60
E17 2H CCD C.B.A
REAR JACK C.B.A.
51
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E3
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RS-232C C.B.A. E17
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E36
E7 KEY BOARD C.B.A.
26
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E29
E25
MOTOR REGULATOR C.B.A
E18
62
E24
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E35
E8 REMOTE CONTROL JACK C.B.A.
85
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E38
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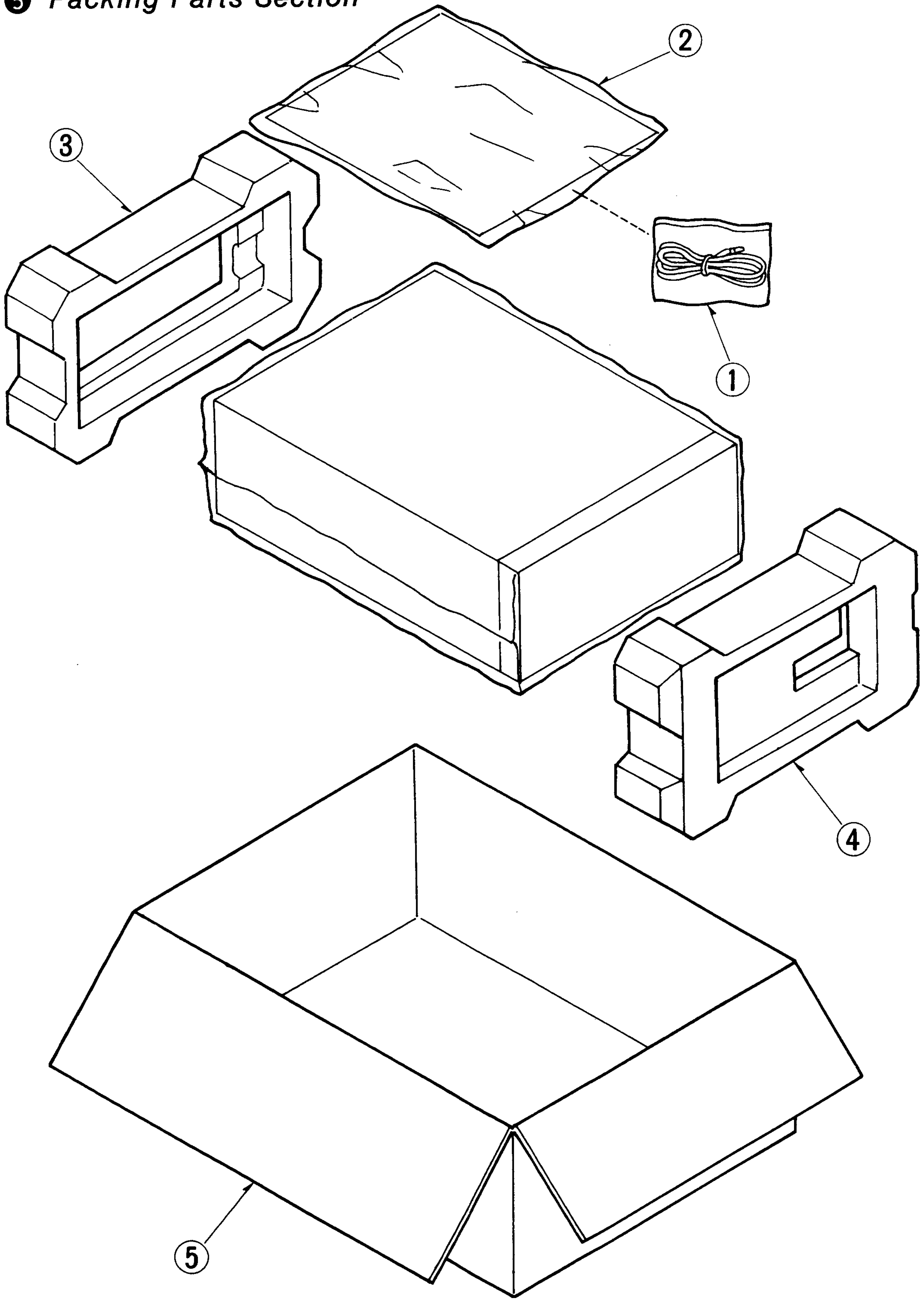
Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
4-2		VJF0977	AC CORD HOLDER	1	
4-3		VMP3196	AC CORD ANGLE	1	
4-4		VSC3401	SHIELD CASE (A)	1	
4-5		VDB0293	BUSHING	1	
4-6		VJA0675	AC CORD	1	<R><!>
4-8		VMZ1224	INSULATION SHEET (E)	1	
4-9		VGQ1377	TR HOLDER	1	
4-10		VSC3402	SHIELD CASE (B)	1	
4-11		VSC3404	HEAT SINK	1	
4-12		VMZ1842	INSULATION SHEET (A)	1	
4-13		VSC3403	SHIELD CASE (C)	1	
4-14		VGM0793	TOP COVER	1	<R>
4-15		VMG0318	BOTTOM RUBBER CAP	1	
4-16		VMP3195	FRONT ANGLE	1	
4-17		VJR3-1	CORD CLAMPER	2	
4-18		VMP3254	MECHANISM SUPPORT ANGLE	1	
4-19		VMP3203	CONNECTION ANGLE (R)	1	
4-20		VMP3202	CONNECTION ANGLE (L)	1	
4-21		VMP3200	EARTH ANGLE (A)	1	
4-22		VKA0038	RUBBER FOOT	2	
4-23		VJF0384	CORD CLAMPER	1	
4-24		VMP3252	EARTH ANGLE (C)	1	
4-25		VMP3201	EARTH ANGLE (B)	1	
4-26		VMP3253	EARTH ANGLE (D)	1	
4-27		VMZ1844	FFC BARRIER	1	
4-28		VJF0947	CORD KEEPER	3	
4-29		VMX2016	BUTTON SPACER (A)	1	
4-30		VGU5067	VR KNOB	3	<R>
4-31		VYP3865	FRONT PANEL UNIT	1	<R>
4-32		VMP0770	HANDLE ANGLE (L)	1	<R>
4-33		VMX0919	HANDLE SPACER	2	<R>
4-34		VMP0768	HANDLE STOPPER ANGLE	2	<R>
4-35		VMP0769	HANDLE ANGLE (R)	1	<R>
4-36		VMX0918	HANDLE WASHER	2	
4-37		VML2395	HANDLE ARM	2	<R>
4-38		VKH0228	HANDLE BAR	1	<R>
4-39		VGU5581	COUNTER BUTTON	1	<R>
4-40		VGU5580	TRACKING BUTTON	1	<R>
4-41		VGU5578	FUNCTION BUTTON (A)	1	<R>
4-42		VGU5579	FUNCTION BUTTON (B)	1	<R>
4-43		VKU0361	BOTTOM PLATE	1	<R>
4-47		VSC3613	AC HEAD SHIELD SHEET	1	
4-50		VGH2885	PLATE	1	
4-51		VGH0642	REAR JACK PLATE	1	
4-52		VJS1440	BNC CONNECTOR	2	
4-53		VHD0510	NUT	2	
4-54		VJS2772	D-SUB 25P CONNECTOR	1	
4-55		XTB3+8GFZ	SCREW	4	
4-56		XTV3+8F	SCREW	2	
4-57		VMX2084	P.B.BRIDGE	1	
4-58		VMX2083	SPACER	3	
4-59		VMX0237	AC CORD COVER	1	
4-60		VSC3612	SHIELD CASE (D)	1	
4-70		XTV3+6F	SCREW	3	
4-71		XTV3+8G	SCREW	8	
4-72		XYE4+EF6	SCREW	1	
4-73		XTV3+14F	SCREW	2	
4-74		VHD0404	SCREW	2	
4-75		XTV3+8FR	SCREW	5	
4-76		XTV3+10GFR	SCREW	2	
4-77		XSB4+8S	SCREW	3	
4-78		XTV3+10G	SCREW	2	
4-79		XSB3+6	SCREW	4	
4-80		XTB3+10FFZ	SCREW	2	
4-81		XWC4BFY	WASHER	4	
4-82		XTV3+8GFR	SCREW	3	
4-83		XSB3+4FZ	SCREW	2	
4-85		XTV3+8FFR	SCREW	2	
4-86		XSS3+8FCS	SCREW	2	
4-87		XSB4+4FCW	SCREW	4	
4-88		XTB3+10GFZ	SCREW	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
5-1		VJA0579	4P CABLE	1	<R>
5-2		VQT4414	OPERATING INSTRUCTIONS	1	<R><!> AG-5700-E/B
			(ENGLISH)		
5-2		VQT4415	OPERATING INSTRUCTIONS	1	<R><!> AG-5700-E
			(FRENCH/GERMAN)		
5-3		VPN3174	CUSHION (R)	1	<R>
5-4		VPN3173	CUSHION (F)	1	<R>
5-5		VPG6248	PACKING CASE	1	<R> AG-5700-E
5-5		VPG6249	PACKING CASE	1	<R> AG-5700-B

❺ Packing Parts Section



ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
E1		VEP03937A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			MAIN		INCLUDING THE
					FM AUDIO (VEP04353A)
E2		VEP04353A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			FM AUDIO		PARTS LIST IS
					INCLUDED IN MAIN
					(VEP03937A)
E3		VEP00R87A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			REAR JACK		
E4		VEP03938A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			CCD		INCLUDING THE
					CCD UNIT (VEP03880A)
E55		VEP03880A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			CCD UNIT		PARTS LIST IS
					INCLUDED IN CCD
					(VEP03938A)
E5		VEP01523A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			POWER WSUPPLY (1)		
E6		VEP01522A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			POWER WSUPPLY (2)		
E7		VEP06770B	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			FRONT		
E8		VEP00R14D	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			REMOTE CONTROL JACK		
E9		VEP05152C	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			HEAD AMP		
E10		VXA3825	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			MECHANISM CONNECTION		
E11		VEP00K88A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			FE HEAD		
E12		VEP00M86A	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			FG AMP		
E13		VEX0113	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			CYLINDER DRIVE		
E14		VEK3578	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			SUPPLY PHOTO TR		
E15		VEK4676	P.C.BOARD W/COMPONENT	1	(NLA)<R>
			TAKE UP PHOTO TR		
E16		VEP06776A	P.C.BOARD W/COMPONENT	1	
			MOTOR REGULATOR		
E17		VEP06775B	P.C.BOARD W/COMPONENT	1	
			RS-232C		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP03937A	P.C.BOARD W/COMPONENT		INCLUDING THE
			MAIN		FM AUDIO (VEP04353A)
			CAPACITORS		
C401,02		ECEV1CAN4R7	E.CAPACITOR CH 16V 4.7U	2	
C405		ECHU1C682JA5	P.CAPACITOR 16V 6800P	1	
C406		ECUM1H102JN	C.CAPACITOR CH 50V 1000P	1	
C407		ECHU1C223JA5	P.CAPACITOR 16V 0.022U	1	
C408		ECEV1EA100	E.CAPACITOR CH 25V 10U	1	
C409		ECHU1C223JA5	P.CAPACITOR 16V 0.022U	1	
C410		ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C411		ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C412		ECHU1C103JA5	P.CAPACITOR 16V 0.01U	1	
C413		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C414-16		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	3	
C417		ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C418		ECWV1E104JS	P.CAPACITOR 25V 0.1U	1	
C419		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C420		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C421-23		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C424		ECWV1E154JS	P.CAPACITOR 25V 0.15U	1	
C425		ECWV1E104JS	P.CAPACITOR 25V 0.1U	1	
C426		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C427		ECUM1H102JN	C.CAPACITOR CH 50V 1000P	1	
C428		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C431		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C432		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C433		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C434		ECWV1E104JS	P.CAPACITOR 25V 0.1U	1	
C435		ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C436-38		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	3	
C439		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C440		ECHU1C103JA5	P.CAPACITOR 16V 0.01U	1	
C441		ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C442		ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C443		ECHU1C223JA5	P.CAPACITOR 16V 0.022U	1	
C444		ECEV1EA100	E.CAPACITOR CH 25V 10U	1	
C445		ECUM1H102JN	C.CAPACITOR CH 50V 1000P	1	
C446		ECHU1C223JA5	P.CAPACITOR 16V 0.022U	1	
C447		ECHU1C682JA5	P.CAPACITOR 16V 6800P	1	
C449		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C450-52		ECEV1HA3R3	E.CAPACITOR 50V 3.3U	3	
C453,54		ECEV1CA100	E.CAPACITOR 16V 10U	2	
C455		ECEV1CA470P	E.CAPACITOR 16V 47U	1	
C456		ECEV1HA010	E.CAPACITOR 50V 1U	1	
C457		ECEV1CA220	E.CAPACITOR CH 10V 22U	1	
C458		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C459,60		ECEV0JA470	E.CAPACITOR 6.3V 47U	2	
C461,62		ECEV1HA010	E.CAPACITOR 50V 1U	2	
C463		ECWV1E124JS	P.CAPACITOR 25V 0.12U	1	
C3001,02		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3003,04		ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C3005		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3006		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3007		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3008		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3009		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3010		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3014		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3015		ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C3016		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3017-20		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3021		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3022		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3023		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3024,25		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3026		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3027		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3028		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3029		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3030		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3032		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3033		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C3034		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3035		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3036		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3037		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3038		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3039		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3040		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3041		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3042		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C3043		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3044		ECEA1CKN470	E.CAPACITOR 16V 47U	1	
C3045,46		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C3047		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3048		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3049,50		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3051		ECEA1AKN220	E.CAPACITOR 10V 22U	1	
C3053		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3054,55		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C3056		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3057		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3058,59		ECEA1CKA220	E.CAPACITOR 16V 22U	2	
C3061		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3062		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3063		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C3064		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3065		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3067		ECEA1HKN2R2	E.CAPACITOR 50V 2.2U	1	
C3069		ECST1EX225K	T.CAPACITOR 25V 2.2U	1	
C3070		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3071		ECEA1CKN4R7	E.CAPACITOR 16V 4.7U	1	
C3072		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3073		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C3074		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	1	
C3075		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C3076		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C3077		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C3078		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3079		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3080,81		ECEA1CKN100	E.CAPACITOR 16V 10U	2	
C3082		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3083		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C3084		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3085		ECEA1CKN220	E.CAPACITOR 16V 22U	1	
C3086		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3087		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3088		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3089		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3090,91		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3092		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3093		ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	1	
C3094		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3095		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3096		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3097		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3098		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3099		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3100,01		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3102		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3103		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3104		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3105		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3106		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3107		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3108		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3109		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3110		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3111		ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	1	
C3112		ECEA0JKS331	E.CAPACITOR 6.3V 330U	1	
C3113		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3114		ECEA1CKN4R7	E.CAPACITOR 16V 4.7U	1	
C3115		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C3116		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3117		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3118		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3119		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3120		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3121		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3122		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3123		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3124		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3125		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3126		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C3127		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C3128		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3129,30		ECUM1H120JCN	C.CAPACITOR CH 50V 12P	2	
C3131		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3301		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3302		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3303		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3304		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3305		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3307		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3309		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3310		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3311		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C3312		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3313		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3314		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C3315		ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	1	
C3316		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3317		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3318		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3319-21		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3322		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3323-25		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3326		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3327		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3328		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3329		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3330		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3331		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3333,34		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3335		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3336		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3337		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3338		ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
C3339		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3340		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3341		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3342		ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
C3343,44		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3345		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C3346		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3347		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3348-52		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C3353		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3354		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3355		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3356		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3357		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3358		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3359		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3360		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3361		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3362		ECUM1H020DCN	C.CAPACITOR CH 50V 2P	1	
C3363		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3364		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3365,66		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3367		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3368-72		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C3373		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3374		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3375		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3376-79		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3380		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3381		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3382,83		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3384		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3385		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C3386		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3387		ECEA0JU471	E.CAPACITOR 6.3V 470U	1	
C3388		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3389		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C3390,91		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3392		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C3393		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3394		ECEA1CKN100	E.CAPACITOR 16V 10U	1	
C3395		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3396		ECUM1H102ZFN	C.CAPACITOR CH 50V 1000P	1	
C3397,98		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3399		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3400		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3401		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3402		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3403		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3405		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3432		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3802		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3803,04		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3805		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3806		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C3807		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3808		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3809		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3810		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3811		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C3812		ECEA1HFS4R7	E.CAPACITOR 50V 4.7U	1	
C3813		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C3814		ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3815		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3816		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3817,18		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	2	
C3819		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3820		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3821,22		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3823		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3824		ECQB1H224JF	P.CAPACITOR 50V 0.22U	1	
C3825		ECV1ZW20X64T	V.CAPACITOR 20P	1	
C3826		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C3827		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3828		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C3829		ECQB1H154JF	P.CAPACITOR 50V 0.15U	1	
C3830		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3831		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C3832		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3833		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3834		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3835		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3838		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3839		ECUM1H152KBN	C.CAPACITOR CH 50V 1500P	1	
C3840		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3841,42		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3843		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3844		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3845		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3846		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C3847,48		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3849		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C3850		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3851		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3852		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C3853		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C3854		ECEA1AKN470	E.CAPACITOR 10V 47U	1	
C3855		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3856-58		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3859		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3860		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3861		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3862		ECQV1H823JZ	P.CAPACITOR 50V 0.082U	1	
C3863		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3865		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4001-03		ECEA1CKA100	E.CAPACITOR 16V 10U	3	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4004,05		ECUM1E105ZFM	C.CAPACITOR CH 25V 1U	2	
C4006		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4007		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4014		ECEA1VKA100	E.CAPACITOR 35V 10U	1	
C4021		ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C4022		ECQB1H122JF	P.CAPACITOR 50V 1200P	1	
C4023		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C4024		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4025		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4026		ECST1VX105	T.CAPACITOR 35V 1U	1	
C4027		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4028		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4029		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4030		ECUM1H822KBN	C.CAPACITOR CH 50V 8200P	1	
C4031		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4032		ECQB1H393JF	P.CAPACITOR 50V 0.039U	1	
C4033		ECQB1H183JF	P.CAPACITOR 50V 0.018U	1	
C4034		ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4035		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C4036		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4037		ECHU1C103JA5	P.CAPACITOR 16V 0.01U	1	
C4061		ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4062		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4063		ECEA1HKNR33	E.CAPACITOR 50V 0.33U	1	
C4064		ECEA1VKA100	E.CAPACITOR 35V 10U	1	
C4066		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4067		ECCD2H121K	C.CAPACITOR 500V 120P	1	
C4069		ECQB1H222JF	P.CAPACITOR 50V 2200P	1	
C4070		ECQB1H102JF	P.CAPACITOR 50V 1000P	1	
C4076		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4077,78		ECUM1E105ZFM	C.CAPACITOR CH 25V 1U	2	
C4079,80		ECEA1CKA101	E.CAPACITOR 16V 100U	2	
C4081,82		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4083,84		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	2	
C4085,86		ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4087		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4501		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4502		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4503		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4507		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4512		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6001		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C6002		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6003		ECEA1CSS222	E.CAPACITOR 16V 2200U	1	
C6004		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6005		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6006		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C6007		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C6008		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C6009		ECQV1H474JZ	P.CAPACITOR 50V 0.47U	1	
C6011		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6012		ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C6013		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6014		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6015		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6016		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6017		ECEA1EU101	E.CAPACITOR 25V 100U	1	
C6018		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6019		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6020,21		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6022		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6023		ECQB1H472JF	P.CAPACITOR 50V 4700P	1	
C6024		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C6025		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6026		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	1	
C6027		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C6028		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6029		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C6030		ECQB1H683JF	P.CAPACITOR 50V 0.068U	1	
C6031		ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C6032		ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	1	
C6033		ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C6034		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C6035		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C6036		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C6037		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C6044		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6045		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C6046		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6047		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C6048		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C6049		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C6050		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6051		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C6052		ECUM1H221KBN	C.CAPACITOR CH 50V 220P	1	
C6053		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6054		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C6055		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6056,57		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6058		ECUM1H562KBN	C.CAPACITOR CH 50V 5600P	1	
C6201-03		ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	3	
C6204-07		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C6208		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C6209		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C6210		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6211		ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C6212		ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C6213		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	1	
C6214		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6215		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6216,17		ECEA1CKN100	E.CAPACITOR 16V 10U	2	
C6218		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C6219,20		ECEA1HKN010	E.CAPACITOR 50V 1U	2	
C6221		ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C6222		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C6223		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6224		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6225		ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C6231		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6232		ECEA1AKA330	E.CAPACITOR 10V 33U	1	
C6233		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C6234		ECEA1VFE820	E.CAPACITOR 35V 82U	1	
C6235		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6236		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6237,38		ECEA1HKA010	E.CAPACITOR 50V 1U	2	
C6239		ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6240		ECEA1CKA100	E.CAPACITOR 16V 10U	1	
D401		MA720	DIODE	1	<R>
D3001		MA151WA	DIODE	1	<R>
D3002-04		MA151K	DIODE	3	<R>
D3005		MA151WK	DIODE	1	<R>
D3006		MA3091-M	DIODE	1	<R>
D3008		1SS283	DIODE	1	<R>
D3009		MA3091-M	DIODE	1	<R>
D3010		MA151K	DIODE	1	<R>
D3301		MA151WA	DIODE	1	<R>
D3302-07		MA151K	DIODE	6	<R>
D3801-04		MA151K	DIODE	4	<R>
D3805,06		MA151WK	DIODE	2	<R>
D4001		MA157	DIODE	1	<R>
D4003		MA151WK	DIODE	1	<R>
D4502		MA151WK	DIODE	1	<R>
D6001		MA151K	DIODE	1	<R>
D6003		11ES1	DIODE	1	<R>
D6004		MA151WK	DIODE	1	<R>
D6005,06		MA151K	DIODE	2	<R>
D6008		MA151WK	DIODE	1	<R>
D6009		MA151K	DIODE	1	<R>
D6010,11		MA151WK	DIODE	2	<R>
D6012		MA151K	DIODE	1	<R>
D6202		MA151K	DIODE	1	<R>
D6203,04		MA153	DIODE	2	<R>
D6210		MA151WA	DIODE	1	<R>
D6211-13		MA151K	DIODE	3	<R>
D6214		MA151WA	DIODE	1	<R>
D6215		MA3082-L	DIODE	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D6216-18		MA151K	DIODE	3	<R>
D6219		MA4062M	DIODE	1	<R>
D6220		11EQS04	DIODE	1	<R>
D6222,23		MA4330-M	DIODE	2	<R>
D6231		MA151K	DIODE	1	<R>
DL3001		VLD0089	DELAY LINE	1	
DL3801		VLD0147	DELAY LINE	1	
FL3001		ELB4R049	FILTER	1	
FL3002		ELB4L121	FILTER	1	
FL3003		VLF0499	FILTER	1	
FL3004		ELB4M022	FILTER	1	
FL3005		VLF0824	FILTER	1	
FL3006		VLF0811	FILTER	1	
FL3007,08		VLF0630	FILTER	2	
FL3009		VLF0811	FILTER	1	
FL3010		VLP0083	FILTER	1	
FL3011		VLD0126	FILTER	1	
FL3012		VLP0083	FILTER	1	
FL3301		VLF0765	FILTER	1	
FL3302		VLF0766	FILTER	1	
FL3303		ELB5A066	FILTER	1	
FL3304,05		ELB4K114	FILTER	2	
FL3306		ELB4R031	FILTER	1	
FL3801		VLD0153	FILTER	1	
FL3802		VLF0299	FILTER	1	
FL3803		VLD0125	DELAY LINE	1	
FL3805		VLF0143	FILTER	1	
FL4501		VLF0697	FILTER	1	
IC401		BA7705K1	IC	1	<R>
IC3001		MN4030BS	IC	1	<R>
IC3002		VEFH05B	IC	1	<R>
IC3003		AN3495S	IC	1	<R>
IC3005		MSM6871RS	IC	1	<R>
IC3006		NJM2233BMA	IC	1	<R>
IC3007		VEFH07C	IC	1	<R>
IC3008		MSM6871RS	IC	1	<R>
IC3009		BA7021	IC	1	<R>
IC3010		MSM6871RS	IC	1	<R>
IC3011		M52065FP	IC	1	<R>
IC3301		AN3916LF	IC	1	<R>
IC3302		NJM2233BMA	IC	1	<R>
IC3303		M52054FP	IC	1	<R>
IC3304		AN6308S	IC	1	<R>
IC3305		AN3581S	IC	1	<R>
IC3306		UPC78L05J	IC	1	<R>
IC3307		TC7S04F	IC	1	<R>
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IC3803		NJM2233BMA	IC	1	<R>
IC3804		MC14577AF	IC	1	<R>
IC4001		M52055FP	IC	1	<R>
IC4003		LA7296	IC	1	<R>
IC4006		NJM4565MD	IC	1	<R>
IC4007		BA6138	IC	1	<R>
IC4501		VEP04353A	P.C.BOARD W/COMPONENT	1	<R>
IC4502		UPC78L05J	IC	1	<R>
IC4503		AN1358S	IC	1	<R>
IC6001		MN67431VCRK	IC	1	<R>
IC6002		MC14519BF	IC	1	<R>
IC6004		MN1280R	IC	1	<R>
IC6005		AN3727S	IC	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC6006		AN1393S	IC	1	<R>
IC6007		UPC358G	IC	1	<R>
IC6008		MN15522VOS	IC	1	<R>
IC6010		AN1393S	IC	1	<R>
IC6011		MC14013BF	IC	1	<R>
IC6201		AN6609N	IC	1	<R>
IC6202		BA6435S	IC	1	<R>
IC6203		AN6562S	IC	1	<R>
IC6204		LM393PS	IC	1	<R>
IC6205		TC7WU04F	IC	1	<R>
IC6206		TC7W08F	IC	1	<R>
J3801		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J4001		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
J6002		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L401		VLQ0163J101	COIL 100UH	1	
L403		VLQ0163J101	COIL 100UH	1	
L3003,04		VLQEL05K150J	COIL 15UH	2	
L3005-08		VLQ0460	COIL	4	
L3010,11		VLQ0460	COIL	2	
L3012		VLQEL05K330J	COIL 33UH	1	
L3014		VLQEL05K220J	COIL 22UH	1	
L3015-17		VLQ0460	COIL	3	
L3018		VLQEL05K121J	COIL 120UH	1	
L3019		VLQEL05K220J	COIL 22UH	1	
L3020		VLQEL05K560J	COIL 56UH	1	
L3021,22		VLQ0460	COIL	2	
L3025,26		VLQ0460	COIL	2	
L3123		VLQEL05K560J	COIL 56UH	1	
L3124		VLQ0460	COIL	1	
L3302-06		VLQ0460	COIL	5	
L3307		VLQEL05K820J	COIL 82UH	1	
L3308		VLQEL05K151J	COIL 150UH	1	
L3311		VLQEL05K151J	COIL 150UH	1	
L3312		VLQEL05K6R8J	COIL 6.8UH	1	
L3313		VLQEL05K4R7J	COIL 4.7UH	1	
L3314		VLQEL05K151J	COIL 150UH	1	
L3315		VLQ0460	COIL	1	
L3316		VLQEL05K181J	COIL 180UH	1	
L3317,18		VLQ0460	COIL	2	
L3319		VLQEL05K270J	COIL 27UH	1	
L3320,21		VLQEL05K5R6J	COIL 5.6UH	2	
L3322		VLQEL05K120J	COIL 12UH	1	
L3323		VLQ0460	COIL	1	
L3324		VLQEL05K220J	COIL 22UH	1	
L3325,26		VLQEL05K100J	COIL 10UH	2	
L3327,28		VLQ0460	COIL	2	
L3802		VLQEL05K270J	COIL 27UH	1	
L3803-06		VLQ0460	COIL	4	
L3807		VLQEL05K150J	COIL 15UH	1	
L3808		VLQ0163J330	COIL 33UH	1	
L3809,10		VLQ0460	COIL	2	
L3811,12		VLQEL05K681J	COIL 680UH	2	
L3813		VLQEL05K331J	COIL 330UH	1	
L3814		VLQEL05K221J	COIL 220UH	1	
L3815		VLQEL05K470J	COIL 47UH	1	
L3818		VLQEL05K151J	COIL 150UH	1	
L3819,20		VLQ0460	COIL	2	
L3821		VLQEL05K151J	COIL 150UH	1	
L4001		VLQEL07F101K	COIL 100UH	1	
L4002		VLQEL07F153J	COIL 15MH	1	
L4003		VLQEL05K561J	COIL 560UH	1	
L4004		VLQEL07F102K	COIL 1000UH	1	
L4005		VLQ0123	COIL	1	
L6001,02		VLQEL05K101J	COIL 100UH	2	
L6004		VLQEL05K101J	COIL 100UH	1	
L6006		VLQEL05K101J	COIL 100UH	1	
L6007		VLP0083	FILTER	1	
L6201		ELESP102KA	COIL	1	
L6202		VLP0083	FILTER	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P1,P2		VJR0706A020	CONNECTOR	2	
P2001		VJS3135	CONNECTOR (FEMALE)	1	
P2002		VJP1232T	CONNECTOR(MALE) 5P	1	
P2003		VJP1229T	CONNECTOR(MALE) 2P	1	
P3001,02		VJP3043A010W	CONNECTOR (MALE)	2	
P3301		VJP1239T	CONNECTOR(MALE) 12P	1	
P4001		VJP1231T	CONNECTOR(MALE) 4P	1	
P4501		VJP1235T	CONNECTOR(MALE) 8P	1	
P6001		VJS3134	CONNECTOR (FEMALE)	1	
P6002		VJP1511R	CONNECTOR(MALE)	1	
P6003		VJP1229R	CONNECTOR(MALE)	1	
P6004		VJS2571A004	CONNECTOR (FEMALE)	1	
P6005		VJP1234T	CONNECTOR(MALE) 7P	1	
P6007		VJS2898A044	CONNECTOR (FEMALE)	1	
P6201		VJS2214	CONNECTOR (FEMALE)	1	
P6202		VJS2212	CONNECTOR (FEMALE)	1	
Q401,02		2SD1328-R	TRANSISTOR CHIP	2	(R,S)<R>
Q3001		MSC2295	TRANSISTOR	1	(B)<R>
Q3002		2SA1022-B	TRANSISTOR CHIP	1	(B,C)<R>
Q3003		MSB709	TRANSISTOR	1	(R)<R>
Q3004-11		MSC2295	TRANSISTOR	8	(B)<R>
Q3012		MSD601	TRANSISTOR	1	(R)<R>
Q3014		MSC2295	TRANSISTOR	1	(B)<R>
Q3015,16		MSD601	TRANSISTOR	2	(R)<R>
Q3017,18		MSB709	TRANSISTOR	2	(R)<R>
Q3019		2SA1022-B	TRANSISTOR CHIP	1	(B,C)<R>
Q3020		MSC2295	TRANSISTOR	1	(B)<R>
Q3021		MSB709	TRANSISTOR	1	(R)<R>
Q3022		MSD601	TRANSISTOR	1	(R)<R>
Q3023		MSC2295	TRANSISTOR	1	(B)<R>
Q3024		2SD639	TRANSISTOR	1	(R,S)<R>
Q3025		MSD601	TRANSISTOR	1	(R)<R>
Q3026		MSB709	TRANSISTOR	1	(R)<R>
Q3301		MSD601	TRANSISTOR	1	(R)<R>
Q3302		MSC2295	TRANSISTOR	1	(B)<R>
Q3303		2SA1022-B	TRANSISTOR CHIP	1	(B,C)<R>
Q3304		MSD601	TRANSISTOR	1	(R)<R>
Q3305		MSC2295	TRANSISTOR	1	(B)<R>
Q3306		2SA1022-B	TRANSISTOR CHIP	1	(B,C)<R>
Q3307		MSD601	TRANSISTOR	1	(R)<R>
Q3308		MSB709	TRANSISTOR	1	(R)<R>
Q3309		MSD601	TRANSISTOR	1	(R)<R>
Q3310		XN1501	TRANSISTOR-TRANSISTOR	1	<R>
Q3311		MSD601	TRANSISTOR	1	(R)<R>
Q3312		MSB709	TRANSISTOR	1	(R)<R>
Q3313		MSC2295	TRANSISTOR	1	(B)<R>
Q3314		MSD601	TRANSISTOR	1	(R)<R>
Q3315		MSC2295	TRANSISTOR	1	(B)<R>
Q3316		MSD601	TRANSISTOR	1	(R)<R>
Q3317,18		MSC2295	TRANSISTOR	2	(B)<R>
Q3319		MSD601	TRANSISTOR	1	(R)<R>
Q3320		MSC2295	TRANSISTOR	1	(B)<R>
Q3321		MSB709	TRANSISTOR	1	(R)<R>
Q3322		MSD601	TRANSISTOR	1	(R)<R>
Q3323,24		MSC2295	TRANSISTOR	2	(B)<R>
Q3325		MSD601	TRANSISTOR	1	(R)<R>
Q3326		MSC2295	TRANSISTOR	1	(B)<R>
Q3327		MSD601	TRANSISTOR	1	(R)<R>
Q3801		MSB709	TRANSISTOR	1	(R)<R>
Q3802		MSD601	TRANSISTOR	1	(R)<R>
Q3804		MSC2295	TRANSISTOR	1	(B)<R>
Q3805-07		MSD601	TRANSISTOR	3	(R)<R>
Q4001		2SB643-R	TRANSISTOR	1	(R)<R>
Q4002		2SD639	TRANSISTOR	1	<R>
Q4003		2SB710A	TRANSISTOR	1	(R,S)<R>
Q4006		2SB710A	TRANSISTOR	1	(R,S)<R>
Q4007,08		2SD1149	TRANSISTOR	2	(R,S)<R>
Q4012,13		2SD1328-R	TRANSISTOR CHIP	2	(R,S)<R>
Q4502		MSB709	TRANSISTOR	1	(R)<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q4503		MSD601	TRANSISTOR	1	(R)<R>
Q6001		2SD893	TRANSISTOR	1	(Q,R,S)<R>
Q6002		2SD973	TRANSISTOR	1	(Q,R,S)<R>
Q6003		2SD636	TRANSISTOR	1	(Q,R,S)<R>
Q6004		2SC2295	TRANSISTOR	1	<R>
Q6005		2SB790-R	TRANSISTOR	1	(R,S)<R>
Q6006		2SB793A	TRANSISTOR	1	(R,S)<R>
Q6007		2SA1309	TRANSISTOR	1	(R)<R>
Q6008		MSD601	TRANSISTOR	1	(R)<R>
Q6201-03		MSD601	TRANSISTOR	3	(R)<R>
Q6204		2SD1273-Q	TRANSISTOR	1	(P,Q)<R>
Q6205		2SD1583	TRANSISTOR	1	<R>
Q6206		2SB1175	TRANSISTOR	1	(P,Q)<R>
QR401		UN2113	TRANSISTOR-RESISTOR	1	<R>
QR403		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR404		UN2113	TRANSISTOR-RESISTOR	1	<R>
QR3002		UN2110	TRANSISTOR-RESISTOR	1	<R>
QR3003-08		MRN1404	TRANSISTOR	6	<R>
QR3009		MRN1403	TRANSISTOR	1	<R>
QR3010		XN1213	TRANSISTOR-TRANSISTOR	1	<R>
QR3301		MRN1403	TRANSISTOR	1	<R>
QR3302		MRN2402	TRANSISTOR	1	<R>
QR3303-07		MRN1404	TRANSISTOR	5	<R>
QR3801,02		MRN1404	TRANSISTOR	2	<R>
QR3803		XN1212	TRANSISTOR-TRANSISTOR	1	<R>
QR3804-08		MRN1404	TRANSISTOR	5	<R>
QR3810		MRN1404	TRANSISTOR	1	<R>
QR3811		MRN1402	TRANSISTOR	1	<R>
QR3813		MRN1402	TRANSISTOR	1	<R>
QR3814		XN1213	TRANSISTOR-TRANSISTOR	1	<R>
QR3816		XN1213	TRANSISTOR-TRANSISTOR	1	<R>
QR4001		MRN1404	TRANSISTOR	1	<R>
QR4003		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR4006,07		MRN1404	TRANSISTOR	2	<R>
QR4501,02		MRN1404	TRANSISTOR	2	<R>
QR6001,02		MRN2404	TRANSISTOR	2	<R>
QR6003		MRN2402	TRANSISTOR	1	<R>
QR6004		MRN1404	TRANSISTOR	1	<R>
QR6006		MRN2404	TRANSISTOR	1	<R>
QR6007-11		MRN1404	TRANSISTOR	5	<R>
QR6012		MRN2404	TRANSISTOR	1	<R>
QR6013		MRN1404	TRANSISTOR	1	<R>
QR6014		MRN2404	TRANSISTOR	1	<R>
QR6015		MRN1404	TRANSISTOR	1	<R>
QR6016,17		MRN1403	TRANSISTOR	2	<R>
QR6019		MRN1404	TRANSISTOR	1	<R>
QR6201		MRN1403	TRANSISTOR	1	<R>
QR6205		MRN1403	TRANSISTOR	1	<R>
QR6207		MRN1402	TRANSISTOR	1	<R>
QR6208		UN2213	TRANSISTOR-RESISTOR	1	<R>
			RESISTORS		
R403,04		ERJ6GEYG821	M.RESISTOR CH 1/10W 820	2	
R406		ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R407		ERJ6GEYJ112	M.RESISTOR CH 1/10W 1.1K	1	
R408		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R409		ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
R410		ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R411		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R412		ERJ6GEYJ303	M.RESISTOR CH 1/10W 30K	1	
R413		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R414		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R415		ERJ6GEYG163	M.RESISTOR CH 1/10W 16K	1	
R416		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R417		ERJ6GEYJ113	M.RESISTOR CH 1/10W 11K	1	
R418		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R420		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R421		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R422		ERJ6GEYJ303	M.RESISTOR CH 1/10W 30K	1	
R423		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R424		ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R425		ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
R426		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R427		ERJ6GEYJ112	M.RESISTOR CH 1/10W 1.1K	1	
R428		ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R429		ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R431		ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R433		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R434		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R435		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R436		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R437		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R438		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R439		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R440		ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R441		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R442,43		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	2	
R3001-03		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R3004		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3005		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3006		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R3007		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3008		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3009		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3010		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3011		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3012		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3013		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3014		ERJ6GEYG911	M.RESISTOR CH 1/10W 910	1	
R3015		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3016		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3019		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3020		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3021		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3022		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3023		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R3024,25		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R3026		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3027		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3029		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3030		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3031		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3032		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3033		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3034		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3035		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3036		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3037		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3038		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3039		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R3040		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3041		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3042		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3043		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3044		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3045		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3046		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3047		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3048		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3049		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3050		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3051		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3052		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3053		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3054		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3055		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3056		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R3057		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3058		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3059		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3060		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3061		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3062		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3063		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R3064		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3065		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3066		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3067		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3068		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3069		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3070		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3071		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3072		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3074		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3075		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3076		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3077		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3078		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3079		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3082-84		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R3086		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3087		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3088		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3089		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3090		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3091		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3092,93		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3094		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3095		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3096		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3097		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3098		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3099		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3100		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3101		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3102		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R3103		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3104,05		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3106		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3107,08		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3109,10		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	2	
R3111		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3112		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R3113		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3114,15		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3116		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3117,18		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R3119		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R3120		ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R3121		ERJ6GEYG561	M.RESISTOR CH 1/10W 560	1	
R3122		ERJ6GEYG133	M.RESISTOR CH 1/10W 13K	1	
R3123-25		ERJ6GEYG122	M.RESISTOR CH 1/10W 1.2K	3	
R3126		ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R3127		ERJ6GEYJ820	M.RESISTOR CH 1/10W 82	1	
R3128		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3130		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R3131		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3132		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3134		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3135,36		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3137		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3138		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3139		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3140,41		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	2	
R3142		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3143		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3301		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3302,03		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R3304-07		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	4	
R3308		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3309		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3310		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3311		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3312		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3313		ERJ6GEYJ112	M.RESISTOR CH 1/10W 1.1K	1	
R3314,15		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3316		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R3317		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3318		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3319		ERJ6GEYG361	M.RESISTOR CH 1/10W 360	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3320-22		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3333		ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
R3334		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3335		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3336		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3337		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3338		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3339,40		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3341		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3342		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3343,44		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R3345		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3346		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3347		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3348		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3349		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3350		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3351		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3352		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3353		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3354,55		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R3356		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3357		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3358		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3359		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3360		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3361		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3362		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3363		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3364		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3365		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3366		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3367		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3368,69		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3370		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3371		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3372,73		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	2	
R3374		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3375		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3376		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3377		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3378,79		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3380		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3383		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3384		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3385		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3386		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R3387		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3389		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3390,91		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R3392,93		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R3394		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3395		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3396		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3397		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3398		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3399		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3400		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3401,02		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	2	
R3403		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3405		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3406		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3407		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3408		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3409,10		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R3411		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3412		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3413		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3414		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3415		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3416		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3417-19		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3420,21		ERJ6GEYG112	M.RESISTOR CH 1/10W 1.1K	2	
R3422		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R3423		ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3424		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3425		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R3426		ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R3427		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3428		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3429		ERJ6GEYJ564	M.RESISTOR CH 1/10W 560K	1	
R3430		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3431		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3432,33		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	2	
R3434		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3435		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3436		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3437		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3438		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3439		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3440		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3441		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3442		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3443		ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1	
R3740		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3801		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3802		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3805		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3806		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3807		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3808		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3809		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3810		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3811		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3812		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R3813		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3814		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3815		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3816		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3817		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3818		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3819		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3820		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3821		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3823		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3824		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3829		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3830		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3831		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3832		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3833		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3834		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3835		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3836		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3837		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3838		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3839		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3841		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3842		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3843		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3844		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3845		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3846		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3847		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3848		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3850		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3851		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3852		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R3853		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3854		ERJ6GEYJ390	M.RESISTOR CH 1/10W 39	1	
R3855		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R3856		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3857		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3858		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3859		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3860		ERJ6GEYG911	M.RESISTOR CH 1/10W 910	1	
R3861-63		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3864		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3865		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3866,67		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3868,69		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3870		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4001		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4002		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4003		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4004,05		ERJ6GEYG623	M.RESISTOR CH 1/10W 62K	2	
R4006		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4008		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4009		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4010,11		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4012		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4013		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4014		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4015		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4021		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4022		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	1	
R4023		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R4024		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	1	
R4025		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R4026		ERJ6GEYG912	M.RESISTOR CH 1/10W 9.1K	1	
R4029		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R4030		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4031		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4032		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R4033		ERJ6GEYG201	M.RESISTOR CH 1/10W 200	1	
R4034		ERJ6GEYG392	M.RESISTOR CH 1/10W 3.9K	1	
R4035		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4036		VRE0034E223	M.RESISTOR CH 1/10W 22K	1	
R4039		ERJ6GEYG202	M.RESISTOR CH 1/10W 2K	1	
R4040		ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R4061		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R4062		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4063		ERJ6GEYJ823	M.RESISTOR CH 1/10W 82K	1	
R4068,69		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4070		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4071		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R4072		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4073		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R4076		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4087		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4088,89		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4090,91		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R4092,93		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	2	
R4096-99		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	
R4101		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4501		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R4502		ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R4503		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R4506		ERJ6GEYG202	M.RESISTOR CH 1/10W 2K	1	
R4507		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4508		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R4509,10		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4511		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4512,13		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R4514		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4515		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R4516		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4517		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4522,23		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4524		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4525		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R4526		ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R4527		ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4528		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6001		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R6002		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R6003		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R6005		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6007		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R6008		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R6009		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	1	
R6010		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6011		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R6012		ERG2SJ180	M.RESISTOR 2W 18	1	
R6013-18		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	6	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6019-22		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	
R6023		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R6024		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6025		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R6026,27		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6028		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R6029,30		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6031,32		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R6033		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R6035,36		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	2	
R6037-40		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	4	
R6041,42		ERJ6GEYJ184	M.RESISTOR CH 1/10W 180K	2	
R6043-46		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	4	
R6047-49		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	3	
R6050		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6051,52		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	2	
R6053		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R6054		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6055		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R6056		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6057		ERDS2TJ220	C.RESISTOR 1/4W 22	1	
R6058		ERDS1FJ331	C.RESISTOR 1/2W 330	1	
R6059		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6060		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6061-63		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	3	
R6064,65		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	2	
R6066		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6067,68		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R6069		ERJ6GEYG622	M.RESISTOR CH 1/10W 6.2K	1	
R6070		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6073		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R6074		ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
R6075,76		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R6077		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6078		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6079		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6080		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6081		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6082		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6083		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6084		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R6085		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6086		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R6087		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6088		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6090		ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R6092		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6093		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6094		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R6095		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6096		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6097		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R6098		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R6099		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6103,04		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6105		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R6106		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6201		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6202		ERSF30JR90	M.RESISTOR	1	
R6203		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R6204		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R6205		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6206		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R6207		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R6208		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R6209		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6210,11		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	2	
R6212		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6213		ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R6214		ERJ6GEYG513	M.RESISTOR CH 1/10W 51K	1	
R6215		ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	1	
R6216		ERJ6GEYG133	M.RESISTOR CH 1/10W 13K	1	
R6217		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R6218		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R6219		ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6220		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6221		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	1	
R6222,23		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	2	
R6224,25		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	2	
R6226,27		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R6228,29		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	2	
R6231,32		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R6233		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6234		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R6235		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R6238		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6239		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R6240		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R6242		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6243		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R6247		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6248		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6249		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6250		ERG3SJ121	M.RESISTOR 3W 120	1	
R6251		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
SW6001,02		VSS023710	SWITCH	2	<R>
T3801		ELM7Q207A	COIL	1	
T4001		EIQ7QF013Q	TRANSFORMER	1	
TH3001		ERTD2FHL102S	THERMISTOR 1K	1	
VR401		EVM7JGA30B24	V.RESISTOR 20K	1	
VR402		EVM7JSX30B14	V.RESISTOR 10K	1	
VR403		EVM7JGA30B25	V.RESISTOR 200K	1	
VR405		EVM7JSX30B14	V.RESISTOR 10K	1	
VR406		EVM7JGA30B25	V.RESISTOR 200K	1	
VR407		EVM7JGA30B24	V.RESISTOR 20K	1	
VR3001		EVM7JGA30B52	V.RESISTOR 500	1	
VR3002-04		EVM7JGA30B13	V.RESISTOR 1K	3	
VR3005		EVM7JGA30B52	V.RESISTOR 500	1	
VR3006,07		EVM7JGA30B13	V.RESISTOR 1K	2	
VR3008		EVM7JGA30B24	V.RESISTOR 20K	1	
VR3009		EVM7JGA30B13	V.RESISTOR 1K	1	
VR3011		EVM7JGA30B13	V.RESISTOR 1K	1	
VR3301		EVM7JGA30B24	V.RESISTOR 20K	1	
VR3302		EVM7JGA30B13	V.RESISTOR 1K	1	
VR3303		EVM7JGA30B52	V.RESISTOR 500	1	
VR3304		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3305		EVM7JGA30B24	V.RESISTOR 20K	1	
VR3306		EVM7JGA30B54	V.RESISTOR 50K	1	
VR3801		EVM7JSX30B14	V.RESISTOR 10K	1	
VR3802		EVM7JGA30B13	V.RESISTOR 1K	1	
VR4012		EVM7JSX30B14	V.RESISTOR 10K	1	
VR4033		EVM38GA00B54	V.RESISTOR 50K	1	
VR4041,42		EVM7JSW30B53	V.RESISTOR 5K	2	
VR4502,03		EVM7JGA30B23	V.RESISTOR 2K	2	
VR6001		EVM7JGA30B25	V.RESISTOR 200K	1	
VR6003,04		EVM7JGA30B15	V.RESISTOR 100K	2	
VR6007		EVM7JGA30B54	V.RESISTOR 50K	1	
X3001		VSX0316	CRYSTAL OSCILLATOR	1	<R>
X3801		VSX0406	CRYSTAL OSCILLATOR	1	<R>
X6001		VSX0296	CRYSTAL OSCILLATOR	1	<R>
X6002		VSX0258	CRYSTAL OSC.	1	<R>
			MISCELLANEOUS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
E18		SHR8006	SPACER	2	
E19		VSC3405	HEAT SINK	1	
E21		VJF0817	CORD CLAMPER	3	
E22		VMC0075	HEAT SINK SPRING	1	
E27		VKC0295	SPACER	2	
E48		VGQ2510	LOCK PIECE	2	
E49		VKC0391	HINGE	2	
E50		VJF0816	CABLE CLAMPER	1	
E51		VJF0384	CABLE CLAMPER	1	
	■	VEP00R87A	P.C.BOARD W/COMPONENT		
			REAR JACK		
			CAPACITORS		
C6901-05		ECEA1CKA100	E.CAPACITOR 16V 10U	5	
C6906		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6907		ECEA1HKN0R1	E.CAPACITOR 50V 0.1U	1	
D6901-03		MA165VT	DIODE	3	<R>
IC6901		VCR0344	IC	1	<R>
JK6903,04		VJS3155	CONNECTOR (FEMALE)	2	
JK6905		VJJ0324	CONNECTOR	1	
JK6906		VJJ0323	CONNECTOR	1	
P6901		VJP2898B044	CONNECTOR (MALE)	1	
P6902		VJS3252B012	CONNECTOR (FEMALE)	1	
Q6901,02		2SD636	TRANSISTOR	2	(Q,R,S)<R>
			RESISTORS		
R6901-03		ERDS2TJ750	C.RESISTOR 1/4W 75	3	
R6904-06		ERDS2TJ104	C.RESISTOR 1/4W 100K	3	
R6907		ERDS2TJ123	C.RESISTOR 1/4W 12K	1	
R6908-10		ERDS2TJ104	C.RESISTOR 1/4W 100K	3	
R6911		ERDS2TJ123	C.RESISTOR 1/4W 12K	1	
R6912		ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
R6913,14		ERDS2TJ473	C.RESISTOR 1/4W 47K	2	
SW6901		VSS0317	SWITCH	1	<R>
SW6902		VSS0217	SWITCH	1	<R>
SW6903-05		VSS0216	SWITCH	3	<R>
	■	VEP03938A	P.C.BOARD W/COMPONENT		INCLUDING THE
			CCD		CCD UNIT (VEP03880A)

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			CAPACITORS		
C3513		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3522		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3524		ECEA0JKN470	E.CAPACITOR 6.3V 330U	1	
C3525		ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3526		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3527		ECEA0JKN470	E.CAPACITOR 6.3V 330U	1	
C3528		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3530		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C8501		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C8502		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C8503		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8504		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C8505		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8506		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C8507		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8508		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C8509,10		ECEA1EKS3R3	E.CAPACITOR 25V 3.3U	2	
C8511		ECEA0JKN470	E.CAPACITOR 6.3V 330U	1	
C8512		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C8514		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C8515		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C8516		ECEA1EKS3R3	E.CAPACITOR 25V 3.3U	1	
C8517,18		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C8519		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C8520,21		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
D3501		MA151WK	DIODE	1	<R>
D3502		MA151K	DIODE	1	<R>
FL8501,02		VLF0523	FILTER	2	
FL8503,04		VLF0526	FILTER	2	
FL8505		ELB4H054	FILTER	1	
IC3502		NJM2233BMA	IC	1	<R>
IC8504		CXL1009P	IC	1	<R>
IC8505		AN78L09	IC	1	<R>
J3501		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L3501		VLQEL05S121J	COIL 120UH	1	
L3504,05		VLQEL05K101J	COIL 100UH	2	
L8501-03		VLQEL05K101J	COIL 100UH	3	
L8510		VLP0053	COIL	1	
P3501,02		VJS3043B010W	CONNECTOR (FEMALE)	2	
P3503		VJP2776	CONNECTOR(MALE)	1	
P3504		VJP2775	CONNECTOR(MALE)	1	
P8506		VJS2776	CONNECTOR (FEMALE)	1	
P8507		VJS2775	CONNECTOR (FEMALE)	1	
Q3504		MSD601	TRANSISTOR	1	(R)<R>
Q3505		2SA1022-B	TRANSISTOR CHIP	1	(B,C)<R>
Q3509		MSC2295	TRANSISTOR	1	(B)<R>
Q8506		MSC2295	TRANSISTOR	1	(B)<R>
Q8507		MSB709	TRANSISTOR	1	(R)<R>
Q8508		MSC2295	TRANSISTOR	1	(B)<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			RESISTORS		
R3519		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3520		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3521		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3522,23		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3524		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R8501		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R8502		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R8503		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R8504		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R8505		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R8506		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R8507		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R8508,09		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R8510		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R8517		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R8535		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
X8502		VSX0323	CRYSTAL OSCILLATOR	1	<R>
			MISCELLANEOUS		
E60		VSC2911	SHIELD CASE	2	
E61		VSC2912	SHIELD CASE	1	
	■	VEP05152C	P.C.BOARD W/COMPONENT		
			HEAD AMP		
			CAPACITORS		
C501		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C502,03		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C504		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C505,06		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C507,08		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C509		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C510		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C511		ECUM1E473ZFN	C.CAPACITOR CH 25V 0.047U	1	
C512		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C513		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C514		ECEA1CPK220	E.CAPACITOR 16V 22U	1	
C515		ECEA0JPK470	E.CAPACITOR 6.3V 47U	1	
C516		VCYE1C104MR1	S.CAPACITOR 16V 0.1U	1	
C517		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C518		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C519-21		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C522		ECUM1H060DCN	C.CAPACITOR CH 50V 6P	1	
C523		ECUM1H040CCN	C.CAPACITOR CH 50V 4P	1	
C524,25		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	2	
C526		ECUM1H050DCN	C.CAPACITOR CH 50V 50P	1	
C527		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C528		ECEA1EK4R7	E.CAPACITOR 25V 4.7U	1	
C551		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C552		ECEA0JPK221	E.CAPACITOR 6.3V 220U	1	
C553		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C555-59		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C560		ECEA0JPK470	E.CAPACITOR 6.3V 47U	1	
C561		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C562,63		ECUM1H471KBN	C.CAPACITOR CH 50V 470P	2	
C564,65		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C566		ECEA1HK010	E.CAPACITOR 50V 1U	1	
C567		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C568		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C569		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C570		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C571,72		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	
C573		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C574		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C575		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C576		VCYE1C104MR1	S.CAPACITOR 16V 0.1U	1	
C577		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
D501,02		MA165VT	DIODE	2	<R>
IC501		AN3334K	IC	1	<R>
IC551		BA7743FS	IC	1	<R>
IC552		AN3370K	IC	1	<R>
L501,02		VLQEL05F101K	COIL 100UH	2	
L551,52		VLQEL05F101K	COIL 100UH	2	
L553,54		VLQ0213K2R2	COIL 2.2UH	2	
L555		VLQ0188J4R7	COIL 4.7UH	1	
L556		VLQEL05F101K	COIL 100UH	1	
P501		VJP1250T	CONNECTOR(MALE) 10P	1	
P502		VJS2603	CONNECTOR (FEMALE)	1	
P551		VJP1235T	CONNECTOR(MALE) 8P	1	
Q501		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
			RESISTORS		
R501		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R502		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R503		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R504		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R505		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R506		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R507		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R508		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R509		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R510		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R511		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R512		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R513		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R514		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R515,16		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	2	
R517-19		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	3	
R551,52		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R553		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R554		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R555		ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R556		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R557		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R558		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R559		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R560		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R561,62		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R563		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R564		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R565		VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R566,67		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R568		ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R569		VRE0034E182	M.RESISTOR CH 1/10W 1.8K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R570		VRE0034E512	M.RESISTOR CH 1/10W 5.1K	1	
VR501,02		EVND1AA00B23	V.RESISTOR 2K	2	
			MISCELLANEOUS		
E39		VSC2668	SHIELD CASE (A)	1	
E40		VSC2669	SHIELD CASE (B)	1	
E41		VSC2670	SHIELD CASE (C)	1	
	■	VEP01523A	P.C.BOARD W/COMPONENT		
			POWER SUPPLY (2)		
			CAPACITORS		
C1101		ECKDNS332MEX	C.CAPACITOR V 3300P	1	
C1102-05		VCK0083	C.CAPACITOR 3300P	4	
C1106		ECKDNS332MEX	C.CAPACITOR V 3300P	1	
F1101		VSF0106C16H	FUSE	1	
L1105		ELF18D221F	COIL	1	
			MISCELLANEOUS		
E54		VMZ1686	CAPACITOR COVER	4	
E31		VMZ1608	CAPACITOR COVER	2	
E30		VJF0318	FUSE HOLDER	2	
	■	VEP01522A	P.C.BOARD W/COMPONENT		
			POWER SUPPLY (1)		
			CAPACITORS		
C1001		ECQU2A224MN	P.CAPACITOR 250V 0.22U	1	
C1002		ECQU2A154MN	P.CAPACITOR 100V 0.15U	1	
C1003		ECOS2GA820AA	E.CAPACITOR 400V 82U	1	
C1004,05		VCK0083	C.CAPACITOR 3300P	2	
C1006		ECKDNS332MEX	C.CAPACITOR V 3300P	1	
C1008		ECEA2GG010	E.CAPACITOR 400V 1U	1	
C1009		ECKD3D331KBN	C.CAPACITOR 3KV 1000P	1	
C1010		ECQE6473B11	P.CAPACITOR 630V 0.047U	1	
C1011		ECQB1H472JF	P.CAPACITOR 50V 4700P	1	
C1012		ECEA1HFE560	E.CAPACITOR 50V 56U	1	
C1013		ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C1014		ECQV1H105JZ	P.CAPACITOR 50V 1U	1	
C1015		ECQV1H334JZ	P.CAPACITOR 50V 0.33U	1	
C1016		ECQP1101JZ	P.CAPACITOR 100V 100P	1	
C1017		ECEA1JGE101	E.CAPACITOR 63V 100U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C1018		ECEA1VFQ681	E.CAPACITOR 35V 680U	1	
C1020		ECEA1AFZ681	E.CAPACITOR 10V 680U	1	
C1026		ECEA1DPS681	E.CAPACITOR 20V 680U	1	
C1027		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1028		ECEA1HGE100	E.CAPACITOR 50V 10U	1	
C1029		ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C1030		ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C1031		ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C1032		ECKF1H821KB	C.CAPACITOR 50V 820P	1	
C1033		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C1034		ECEA1CGE100	E.CAPACITOR 16V 10U	1	
D1001		S1WBA60	DIODE	1	<R>
D1002		MA165VT	DIODE	1	<R>
D1003		AP01C	DIODE	1	<R>
D1004		VSD0002	DIODE	1	<R>
D1005		MA4030L	DIODE	1	<R>
D1006		MA178	DIODE	1	<R>
D1007		ERA22-02	DIODE	1	<R>
D1008		RL4ZPLF-M1	DIODE	1	<R>
D1009		MA2160B	DIODE	1	<R>
D1011		31DQ04	DIODE	1	<R>
D1012		10ELS2	DIODE	1	<R>
D1013		MA4130L	DIODE	1	<R>
IC1001		STRD6008X	IC	1	<R>
IC1002		STK5391	IC	1	<R>
IC1003		SE013E	IC	1	<R>
L1001		ELF18D221F	COIL	1	
L1002		VLQ0410	COIL	1	
L1003		VLP0085	FILTER	1	
P1001		VJP1251T	CONNECTOR(MALE) 11P	1	
Q1001		2SD1273	TRANSISTOR	1	<R>
Q1002		2SD1330	TRANSISTOR	1	<R>
Q1003		PC111	PHOTO COUPLER	1	<R>
			RESISTORS		
R1001		ERC12AGM334	S.RESISTOR 1/2W 330K	1	
R1002		ERC12ZGK685	SOLID 1/2W 6.8M	1	
R1003		ERW1PK2R2	W.RESISTOR 1W 2.2	1	
R1004,05		ERDS1TJ563	C.RESISTOR 1/2W 56K	2	
R1006,07		ERDS2TJ474	C.RESISTOR 1/4W 470K	2	
R1008		ERW1PKR39	W.RESISTOR 1W 0.39	1	
R1009		ERG2SJ390	M.RESISTOR CH 2W 39	1	
R1010		ERG3SJ470	M.RESISTOR 3W 47	1	
R1011		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R1012		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1013		ERG3ANJ683	M.RESISTOR 3W 68K	1	
R1014		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1015		ERD2FCG681	C.RESISTOR 1/4W 680	1	
R1016		ERG1SJ182	M.RESISTOR 1W 1.8K	1	
R1017		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1018		ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
T1001		VLT0608	TRANSFORMER	1	<!><R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
			MISCELLANEOUS		
E31		VMZ1608	CAPACITOR COVER	1	
E32		VMZ1305	CAPACITOR COVER	2	
E53		VMZ1686	CAPACITOR COVER	2	
	■	VEP00R14D	P.C.BOARD W/COMPONENT		
			REMOTE JACK		
			CAPACITORS		
C6514		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
JK6501		VJJ0277	JACK	1	
JK6502		VJJ0192	CONNECTOR	1	
JK6503		VJJ0210	CONNECTOR	1	
			MISCELLANEOUS		
E38		VJF0946	JACK HOLDER	1	
	■	VXA3825	P.C.BOARD W/COMPONENT		
			MECHANISM CONNECTION		
			MISCELLANEOUS		
E42		VMA7829	REINFORCEMENT (F)	1	
E43		VMA7830	REINFORCEMENT (R)	1	
E44		VJS1493	FLEXIBLE WIRE	1	
E45		ON2170	LED	2	
	■	VEP00K88A	P.C.BOARD W/COMPONENT		
			FE HEAD		
			CAPACITORS		
C1401		ECEA1CK100EJ	E.CAPACITOR 16V 10U	1	
C1402		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C1403		ECQB1H333KH	P.CAPACITOR 50V 0.033U	1	
CR1401		EXED1032333T	COMBI.C-R 33K	1	
L1401		VLQEL05F471K	COIL 470UH	1	
P1502		VJP1148	CONNECTOR (MALE)	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q1401		2SD636	TRANSISTOR		(R)
T1401		EIQ7QF002B	TRANSFORMER	1	
	■	VEP00M86A	P.C.BOARD W/COMPONENT		
			FG AMP		
			CAPACITORS		
C1510		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C1511		ECUM1H104ZFM	C.CAPACITOR CH 50V 0.1U	1	
C1512		ECEA1CK470	E.CAPACITOR 16V 47U	1	
C1513		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C1514		ECUM1H104ZFM	C.CAPACITOR CH 50V 0.1U	1	
IC1501		UPC358G	IC	1	<R>
L1510,11		VLP0083	FILTER	2	
P1505		VJS1456	CONNECTOR(FEMALE)	1	
P1506		VJS1685	CONNECTOR (FEMALE)	1	
			RESISTORS		
R1510		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R1511		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
R1512		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R1513-16		ERJ6GMYJ332	M.RESISTOR CH 1/10W 3.3K	4	
R1517		ERJ6GMYJ105	M.RESISTOR CH 1/10W 1M	1	
R1518		ERJ6GMYJ102	M.RESISTOR CH 1/10W 1K	1	
R1519		ERJ6GMYJ473	M.RESISTOR CH 1/10W 47K	1	
	■	VEX0113	P.C.BOARD W/COMPONENT		
			CYLINDER DRIVER		
			CAPACITORS		
C2901-03		ECEA1VSN2R2	E.CAPACITOR 35V 2.2U	3	
C2904-06		ECUM1E104KBM	C.CAPACITOR CH 25V 0.1U	3	
C2907		ECUM1E683KBM	C.CAPACITOR CH 25V 0.068U	1	
C2908		ECUM1E473KBM	C.CAPACITOR CH 25V 0.047U	1	
C2909		ECQV1H104JS	P.CAPACITOR 50V 0.1U	1	
C2910,11		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C2912		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
IC2901		AN3815K	IC	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P2901		VJP2603W	CONNECTOR (MALE)	1	
P2902		VJP1232T	CONNECTOR(MALE) 5P	1	
			RESISTORS		
R2901		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
TH2901		VRH0017	THERMISTOR	1	
	■	VEK3578	P.C.BOARD W/COMPONENT		
			SUPPLY PHOTO TR		
C1501		ECKW1H102KB	C.CAPACITOR 50V 1000P	1	
Q1501		VWJ02FN300RR	TRANSISTOR	1	<R>
			MISCELLANEOUS		
E46		VMD0645	PHOTO TR HOLDER	1	
	■	VEP06776A	P.C.BOARD W/COMPONENT		
			MOTOR REGULATOR		
			CAPACITORS		
C6601-04		ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	4	
D6601		MA720	DIODE	1	<R>
D6602		MA151K	DIODE	1	<R>
D6603		MA720	DIODE	1	<R>
D6604		MA151K	DIODE	1	<R>
D6605		11ES1	DIODE	1	<R>
IC6601,02		M5N317L	IC	2	<R>
P6601		VJP1234T	CONNECTOR(MALE) 7P	1	
QR6602,03		MRN1403	TRANSISTOR	2	<R>
			RESISTORS		
R6601		ERJ6GEYJ241	M.RESISTOR CH 1/10W 240	1	
R6603		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R6604		ERJ6GEYJ241	M.RESISTOR CH 1/10W 240	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6605		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6606		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6607		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R6608		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6609		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
			MISCELLANEOUS		
E42		VMP3198	ANGLE	1	
E43		VMP3199	ANGLE	1	
E44		VSC3406	HEAT SINK	1	
E45		XTV3+8F	SCREW	6	
	■	VEP06775B	P.C.BOARD W/COMPONENT		
			RS-232C		
			CAPACITORS		
C1,C2		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C3		ECEA1HKAR22	E.CAPACITOR 50V 0.22U	1	
C4		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C5-C8		ECEA1CKA220	E.CAPACITOR 16V 22U	4	
C9		ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C10,11		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C12		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C13		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
DSW1		VSS023702	SWITCH	1	
IC1		M37700M4159F	IC	1	<R>
IC2		M51951AML	IC	1	<R>
IC3		UPD4711AGS	IC	1	<R>
J7-J9		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
J10		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L1		VLQEL05K470K	COIL 47UH	1	
L2,L3		VLP0119	COIL	2	
P1		VJS2710B012	CONNECTOR (FEMALE)	1	
QR1		UN2215	TRANSISTOR-RESISTOR	1	<R>
			RESISTORS		
R1		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R2		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4-R9		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	6	
R10		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R11-14		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
X1		VSX0180	CRYSTAL OSCILLATOR	1	<R>
	■	VEK4676	P.C.BOARD W/COMPONENT		
			TAKE UP PHOTO TR		
C1502		ECKZ1H102KB	C.CAPACITOR 50V 1000P	1	
P1508		VJS2165W	CONNECTOR (FEMALE)	1	
Q1502		PN150NVS	TRANSISTOR	1	<R>
R1503		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
			MISCELLANEOUS		
E47		VMD0645	PHOTO TR HOLDER	1	

Order No. VSD9209S643

Service Manual

Supplement

Video Product

Subject: Improvement of Function

Please use this supplement together with the Service Manual as follows:

Model No.	Bulletin No.	Order No.
AG-5700-E/B 2/19/15/1	V00638 8	VSD9209M619

In order to improve the function of the AG-5700, an AUDIO MONITOR OUT jack and Hi-Fi REC switch have been added to the real panel.

AUDIO MONITOR OUT jack (PHONE)

This is used to monitor the audio signal.The audio signal from the AUDIO MONITOR OUT jack is output as shown in the table below depending on the position selected by the AUDIO OUT SELECT switch on the front panel.

AUDIO OUT SELECT SWITCH	AUDIO MONITOR OUT JACK
Hi-Fi	Hi-Fi CH1
LCH	Hi-Fi CH1
RCH	Hi-Fi CH2
No display	Normal audio

Hi-Fi REC switch

This selects the Hi-Fi audio and normal audio sound as below.

ON : Hi-Fi and normal audio are recorded simultaneously.

OFF : Only normal audio is recorded.

The Hi-Fi audio sound can not be recorded when the Hi-Fi REC switch is OFF, even though the AUDIO OUT SELECT switch on the front panel can be set.

Part Number

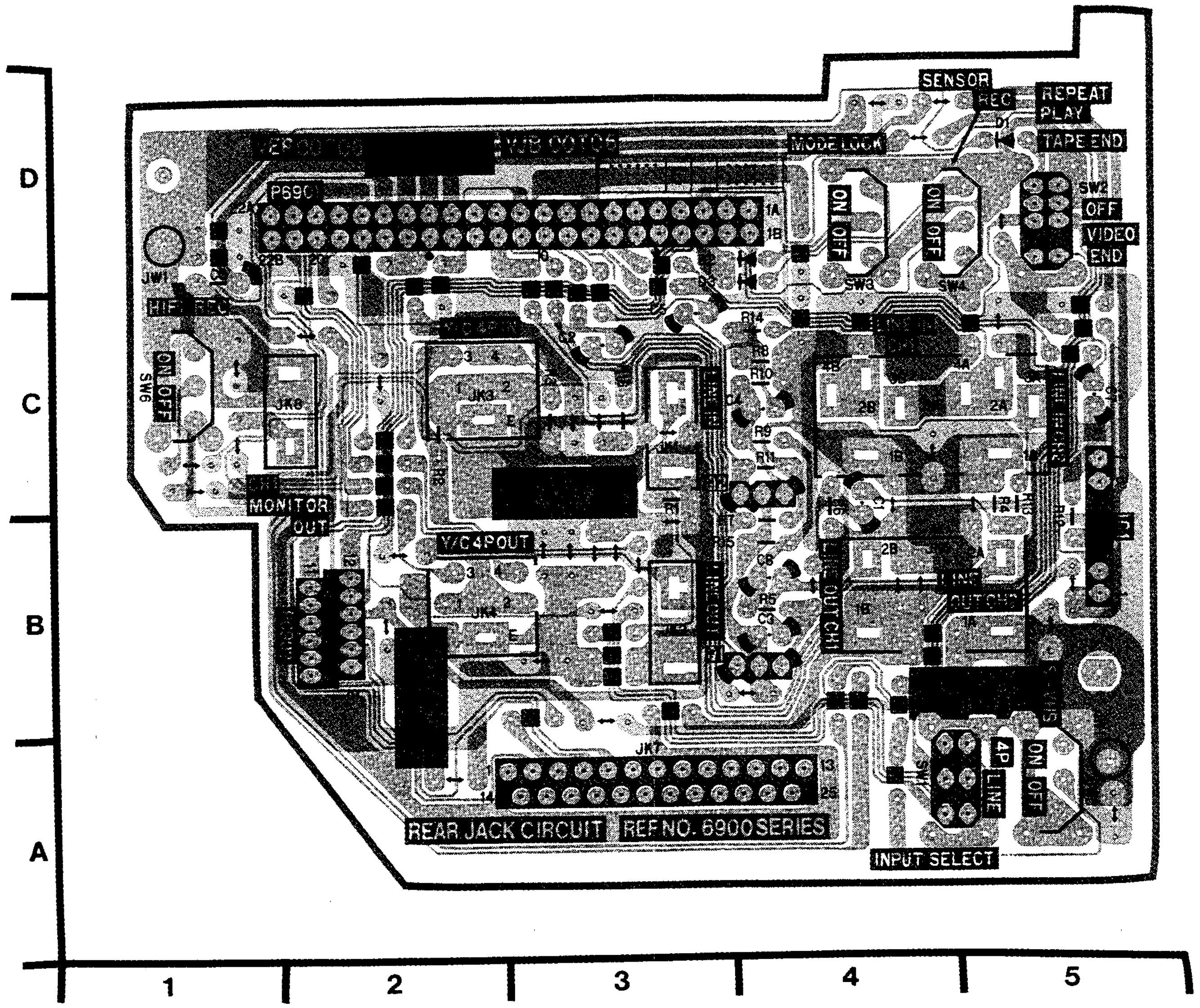
Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
E3	VEP00R87A	VEP00T06A	REAR JACK C.B.A.	1		
E1	VEP03937B	VEP03937C	MAIN C.B.A.	1		
D4502	MA151WK	- - - - -	DIODE			MAIN C.B.A.
4-5	VGH2885	VGH3142	PLATE	1		

Panasonic

Printed in Japan

VIDE-V00638 /Druck47

REAR JACK C. B. A. (VEP00T06A)


D
C
B
A
1
2
3
4
5
SENSOR
REC
REPEAT
PLAY
TAPE END
MODE LOCK
VJB 00T06
P6901
1A
1B
22A
22B
ON OFF
ON OFF
SW2
OFF
VIDEO
END
SW3
SW4
JW1
HiFi REC
SW6
ON OFF
JK8
JK3
R14
R8
R10
R9
R11
C4
C1
R4
R2
R1
R5
C6
C3
MONITOR OUT
Y/C4POUT
JK4
JK7
1
13
14
25
LINE OUT CH1
LINE OUT CH2
4P
LINE
ON OFF
SW1
INPUT SELECT
REAR JACK CIRCUIT
REF NO. 6900SERIES

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP00T06A	P.C.BOARD W/COMPONENT		
			REAR JACK		
C6901-05		ECEA1CKA100	E.CAPACITOR 16V 10U	5	
C6906		ECKF1H103ZFN	C.CAPACITOR 50V 0.01U	1	
C6907		ECEA1HKN0R1	E.CAPACITOR 50V 0.1U	1	
C6908		ECEA1CKA330	E.CAPACITOR 16V 33U	1	
D6901-03		MA165VT	DIODE	3	
IC3901		VCR0344	IC	1	
JK6903,04		VJS3155	S-VHS JACK	2	
JK6905		VJJ0324	AUDIO JACK	1	
JK6906		VJJ0323	AUDIO JACK	1	
JK6908		VJJ0322	MONITOR JACK	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P6901		VJP2898B044	CONNECTOR (FEMALE)	1	
P6902		VJS2710B012	CONNECTOR (MALE)	1	
Q6901,02		2SD636	TRANSISTOR	2	(Q,R,S)
R6901-03		ERDS2TJ750	C.RESISTOR 1/4W 75	3	
R6904-06		ERDS2TJ104	C.RESISTOR 1/4W 100K	3	
R6907		ERDS2TJ123	C.RESISTOR 1/4W 12K	1	
R6908-10		ERDS2TJ104	C.RESISTOR 1/4W 100K	3	
R6911		ERDS2TJ123	C.RESISTOR 1/4W 12K	1	
R6912		ERDS2TJ104	C.RESISTOR 1/4W 100K	1	
R6913,14		ERDS2TJ473	C.RESISTOR 1/4W 47K	2	
R6915		ERDS2TJ123	C.RESISTOR 1/4W 12K	1	
R6916		ERDS2TJ471	C.RESISTOR 1/4W 470	1	
SW6901		VSS0317	SWITCH	1	
SW6902		VSS0217	SWITCH	1	
SW6903-06		VSS0216	SWITCH	4	

REAR JACK SCHEMATIC DIAGRAM

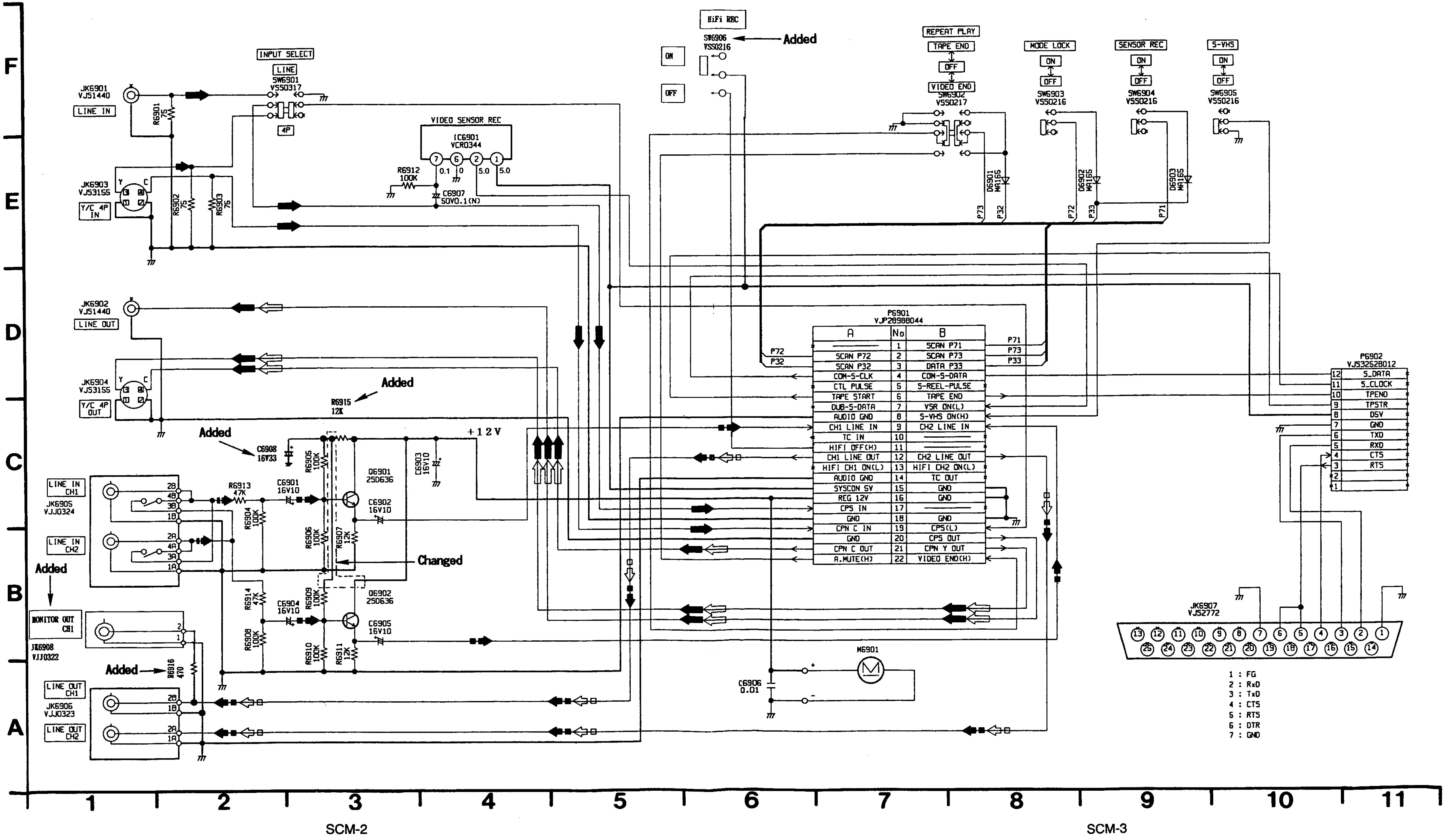
9209S643

◀■ VIDEO MAIN SIGNAL PATH IN REC MODE

◁□ VIDEO MAIN SIGNAL PATH IN PLAYBACK MODE

◀■ ■ AUDIO MAIN SIGNAL PATH IN REC MODE

◁□ □ AUDIO MAIN SIGNAL PATH IN PLAYBACK MODE



F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
SCM-2
SCM-3
JK6901 VJS1440
LINE IN
R6901 75
INPUT SELECT
LINE
SW6901 VSS0317
4P
JK6903 VJS31S5
Y/C 4P IN
R6902 75
R6903 75
VIDEO SENSOR REC
IC6901 VCR0344
R6912 100K
C6907 50V0.1(N)
0.1
0
5.0
5.0
HiFi REC
SW6906 VSS0216
Added
ON
OFF
REPEAT PLAY
TAPE END
OFF
VIDEO END
SW6902 VSS0217
MODE LOCK
ON
OFF
SW6903 VSS0216
SENSOR REC
ON
OFF
SW6904 VSS0216
S-VHS
ON
OFF
SW6905 VSS0216
D6901 MA165
D6902 MA165
D6903 MA165
P73
P32
P72
P33
P71
JK6902 VJS1440
LINE OUT
JK6904 VJS31S5
Y/C 4P OUT
Added
R6915 12K
Added
C6908 16V33
+12V
LINE IN CH1
JK6905 VJJ0324
LINE IN CH2
R6913 47K
C6901 16V10
R6904 100K
R6905 100K
R6906 100K
R6907 12K
Q6901 2SD636
C6902 16V10
C6903 16V10
Changed
Added
MONITOR OUT CH1
JK6908 VJJ0322
R6914 47K
C6904 16V10
R6909 100K
Q6902 2SD636
C6905 16V10
R6908 100K
R6910 100K
R6911 12K
Added
R6916 470
LINE OUT CH1
JK6906 VJJ0323
LINE OUT CH2
C6906 0.01
M6901
P6901 VJP28988044
A | No | B
— | 1 | SCAN P71
SCAN P72 | 2 | SCAN P73
SCAN P32 | 3 | DATA P33
COM-S-CLK | 4 | COM-S-DATA
CTL PULSE | 5 | S-REEL-PULSE
TAPE START | 6 | TAPE END
DUB-S-DATA | 7 | VSR ON(L)
AUDIO GND | 8 | S-VHS ON(H)
CH1 LINE IN | 9 | CH2 LINE IN
TC IN | 10 | —
HIFI OFF(H) | 11 | —
CH1 LINE OUT | 12 | CH2 LINE OUT
HIFI CH1 ON(L) | 13 | HIFI CH2 ON(L)
AUDIO GND | 14 | TC OUT
SYSCON 5V | 15 | GND
REG 12V | 16 | GND
CPS IN | 17 | —
GND | 18 | GND
CPN C IN | 19 | CPS(L)
GND | 20 | CPS OUT
CPN C OUT | 21 | CPN Y OUT
A.MUTE(H) | 22 | VIDEO END(H)
P6902 VJS3252B012
12 S_DATA
11 S_CLOCK
10 TPEND
9 TPSTR
8 D5V
7 GND
6 TXD
5 RXD
4 CTS
3 RTS
2
1
JK6907 VJS2772
1 : FG
2 : RxD
3 : TxD
4 : CTS
5 : RTS
6 : DTR
7 : GND

VIDE-V00638

Order No. VSD9310S683

Service Manual

Supplement

Video Product

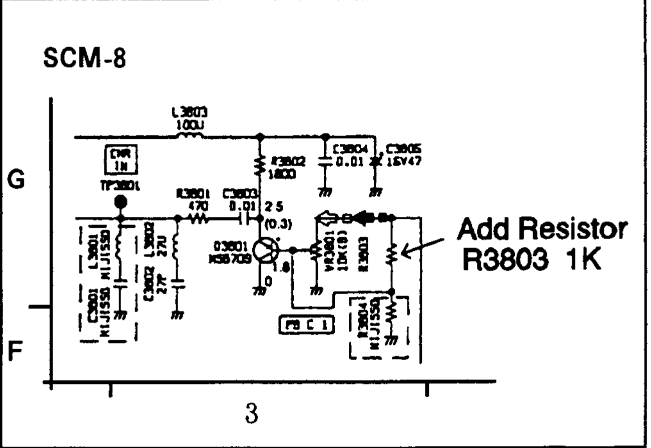
Subject: Improvement of C Playback Level (1) Adjustment

Please use this supplement together with the Service Manual as follows:

Model No.	Bulletin No.	Order No.	Effective from
AG-5700-E/B	11	VSD9202M619	J3 - - -

Board : MAIN C.B.A. (VEP03937B)

In order to expand the C playback level adjustment range, following modification have been performed.


SCM-8
G
F
3
L3803
100U
CNR
IN
TP3801
R3802
1800
C3804
0.01
C3805
16V47
R3801
470
C3803
0.01
2.5
(0.3)
Q3801
2SB709
1.8
0
VR3801
10K(B)
R3803
L3801
NIJ1SSD
C3801
NIJ1SSD
L3802
27U
C3802
27P
R3804
NIJ1SSD
PB C 1

Add Resistor R3803 1K

Interchangeability Code (I/C)			
A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.	B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.	D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Other		

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
R3803	----------	ERJ6GEYJ102	RESISTOR 1K	1	E	

Panasonic

Order No. VSD9311S686 (for PAL)
VSD9303S296 (for NTSC)
D1

Service Manual

Supplement

PAL/NTSC Video Product

Subject: Addition of Video Head Cleaning Function

Please use this supplement together with the Service Manual as follows:

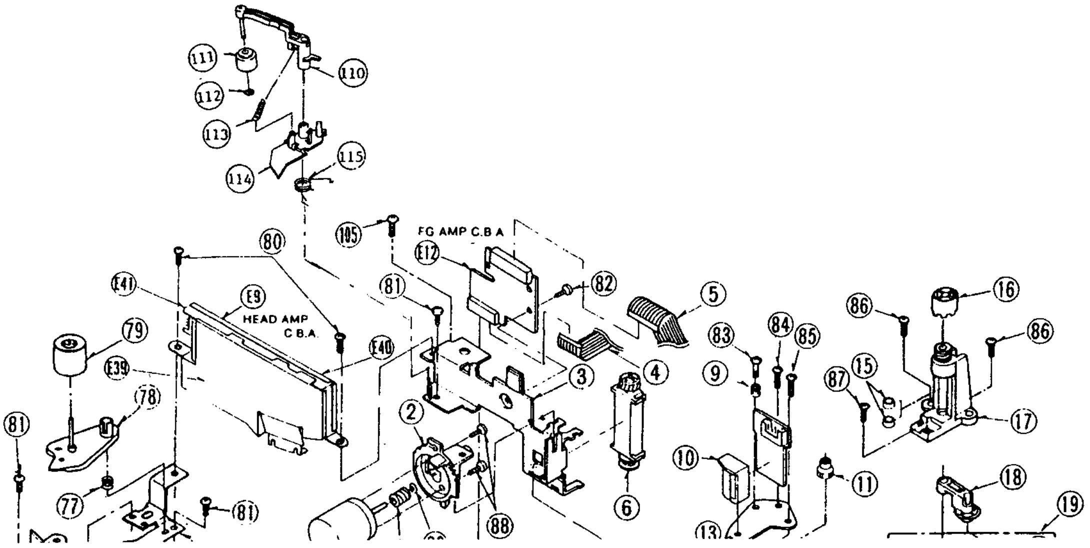
Model No.		Bulletin No.	Order No.	Effective from
AG-5700P		13	VSD9110M213	Running Change
AG-5700E/B	V00638	10	VSD9202M619	Running Change
AG-5250E/B	V11050	20	VSD9104M610	Running Change
AG-5150E/B	V11054	17	VSD9104M611	Running Change

The video head cleaning function has been provided in order to prevent a video head clog.
The parts on the reverse page have been added and changed.

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
3	VXA3815	VXA4318	MOTOR MOUNT PLATE UNIT	1	B	
110	----------	VXL2086	CLEANNER ARM (2) UNIT	1	D	
111	----------	VXP1341	CLEANNER ROLLER UNIT	1	D	
112	----------	VMX1061	SNAP WASHER (A)	1	D	
113	----------	VMB2263	CLEANNER ARM SPRING (A)	1	D	
114	----------	VML2510	CLEANNER ARM (B)	1	D	
115	----------	VMB2264	CLEANNER ARM SPRING (B)	1	D	

❶ *Chassis Parts Section*


111
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FG AMP C.B.A
E12
E41
E9
HEAD AMP C.B.A.
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E39
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Order No. VSD9501S618 (for PAL)
VSD9501S296 (for NTSC)
D1,D4

Service Manual

Supplement

PAL / NTSC Video Product

Subject: Change of IC

Please use this supplement together with the Service Manual as follows:

Model No.		Bulletin No.	Order No.	Effective from
AG-5700P		15	VSD9110M213	G4 - - -
AG-5700E/B	2/19/15/1 V00638	13	VSD9202M619	G4 - - -
AG-6730E	1/34/10/2 V00636	19	VSD9212M628	GE - - -

Reason for Change

☐ The following part(s) has(have) been changed for serviceability improvement.
☐ The following part(s) has(have) been changed for productivity improvement.
■ The following part(s) has(have) been changed for standardization.
☐ The following part(s) has(have) been changed for the safety regulation.
☐

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set Use original parts until exhausted, then stock new parts.	B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.	D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Other		

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
	MC14577BF	MC14577CF	IC	- - -	A	
	MC14576BF	MC14576CF	IC	- - -	A	

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Order No. VSD9504S634

Service Manual

Supplement

Video Product

Subject: Change of IC

Please use this supplement together with the Service Manual as follows:

Model No.		Bulletin No.	Order No.	Effective from
AG-6730E		27	VSD9212M628	D5 - - -
AG-7150-E/B		46	VSD9109M615	D5 - - -
AG-7350-E/B		46	VSD9109M615	D5 - - -
AG-7355-E/B		30	VSD9110M616	D5 - - -
AG-5700-E/B	V00638	15	VSD9202M619	D5 - - -

The following IC for the video circuit has been changed for durability improvement.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.	B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.	D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Other		

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
IC3006	VEFH05BT	VCR0389	IC	1	C	Except AG-5700
IC3002	VEFH05BT	VCR0389	IC	1	C	Only AG-5700

TE2-4251

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Order No. VSD9506S212
D1,D2,D4

Service Manual

Supplement 3

NTSC / PAL Video Product

Subject :Change of IC

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-IA232TC-P	7	VSD9109M211	'95 Running change
AG-5700-P	18	VSD9110M213	'95 Running change
AG-IA670P	3	VSD9210M228	'95 Running change
AG-6760P	32	VSD9210M227	'95 Running change
AG-A570P	1	VSD9205M221	'95 Running change
AG-7530RP	14	VSD9203M216	'95 Running change
AG-7355RP	14	VSD9203M216	'95 Running change
AG-IA823P	2	VSD9403M247	'95 Running change
AG-A570E/B	2	VSD9205M623	'95 Running change
AG-IA232TC-E	6	VSD9109M614	'95 Running change
AG-IA670E	2	VSD9210M627	'95 Running change
AG-5700-E V00638	16	VSD9202M619	'95 Running change

Reason for Change

- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☐ The following part(s) has(have) been changed for productivity improvement.
- ■ The following part(s) has(have) been changed for standardization.
- ☐ The following part(s) has (have) been changed for the safety regulation.
- ☐

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
IC102,5	UPD4711AGS	UPD4711BGS	IC	2	A	AG-A570P, AG-A570E/B
IC3	UPD4711AGS	UPD4711BGS	IC	1	A	AG-7350RP, AG-7355RP, AGIA232TC-P, AG-IA232TC-E
IC6504	UPD4711AGS	UPD4711BGS	IC	1	A	AG-IA823P
IC6904	UPD4711AGS	UPD4711BGS	IC	1	A	AG-6760P, AG-IA670P, AG-IA670E
IC3	UPD4711AGS	UPD4711BGS	IC	1	A	AG-5700-P, AG-5700-E

SE2-0712

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Order No. VSD9607S204
D1,D2,D4

Service Manual

Supplement

NTSC / PAL **Video Product**

Subject : Change of Capacitor

Please use this supplement together with the Service Manual as follows :

Model No.		Bulletin No.	Order No.	Effective from
AG-5700-P		19	VSD9110M218	D6----
AG-6730P		48	VSD9206M227	D6----
AG-6760P		35	VSD9210M264	D6----
AG-1980P		6	VSD9509M264	D6----
AG-5700-E/B		17	VSD9202M619	D6----
AG-6730E	V00638	33	VSD9212M628	D6----

Board: 2H DIGITAL DELAY

In order to improve durability, the capacitors in the parts list below have been changed.

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions		Pcs	I/C	Remarks
C8003	ECEV0JA470	ECEV0JV470Q	E. CAPACITOR CH 6.3V	47U	1	C	AG-5700/AG-6730P/E/B
C8007	ECEV0JA220	ECEV0JV220Q	E. CAPACITOR CH 6.3V	22U	1	C	AG-5700/AG-6730P/E/B
C8017	ECEV0JA220	ECEV0JV220Q	E. CAPACITOR CH 6.3V	22U	1	C	AG-5700/AG-6730P/E/B
C8024	ECEV0JA220	ECEV0JV220Q	E. CAPACITOR CH 6.3V	22U	1	C	AG-5700/AG-6730P/E/B
C8010	ECEV0JA100	ECEV0JV100Q	E. CAPACITOR CH 6.3V	10U	1	C	AG-5700/AG-6730P/E/B
C8011	ECEV1HA2R2	ECEV1HV2R2Q	E. CAPACITOR CH 50V	2.2U	1	C	AG-5700/AG-6730P/E/B
C8015	ECEV1HAN010	ECEV1HN010Q	E. CAPACITOR CH 50V	1U	1	C	AG-5700/AG-6730P/E/B

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Order No. VSD9608S603
D

Service Manual

Supplement

Video Product

Subject : Change of Capacitor

Please use this supplement together with the Service Manual as follows :

Model No.		Bulletin No.	Order No.	Effective from
AG-7150-E/B		50	VSD9109M615	A5—
AG-7350-E/B		53	VSD9109M615	A5—
AG-7355-E/B		38	VSD9110M616	A5—
AG-6040E		30	VSD9209M625	A5—
AG-6730E		34	VSD9212M628	A5—
AG-6045E		5	VSD9501M640	A5—
AG-5700-E	V00638	18	VSD9202M619	A5—
AG-MD830E		15	VSD9408M637	A5—
AG-6840HE/B		32	VSD9004M602	A5—
AG-6850H-E/B		32	VSD9006M603	A5—
AG-6124E/B		9	VSD9406M635	A5—
AG-5260E/B		9	VSD9404M633	A5—
AG-7600E		8	VSD9502M642	A5—
AG-7700E		12	VSD9502M642	A5—
AG-8600E		6	VSD9512M601	A5—
AG-8700E		6	VSD9512M601	A5—

Board: POWER

Reason for Change
- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☐ The following part(s) has(have) been changed for productivity improvement.
- ☐ The following part(s) has(have) been changed for standardization.
- ■ The following part(s) has (have) been changed for the safety regulation.
- ☐

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Order No. VSD9608S604
VIDE-V00638

Service Manual

Supplement 4

Video Product

Subject :Improvement for CE Regulation

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.	Effective from
AG-5700-E/B	18	VSD9202M619	K5—

Reason for Change
- ☐ The following part(s) has(have) been changed for serviceability improvement.
- ☐ The following part(s) has(have) been changed for productivity improvement.
- ☐ The following part(s) has(have) been changed for standardization.
- ■ The following part(s) has (have) been changed for the safety regulation.
- ☐

Interchangeability Code (I/C)

A	Original or new parts may be used in early or late production set. Use original parts until exhausted, then stock new parts.
B	Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts possible then stock new parts.
C	New parts only may be used in early or late production sets.
D	Original parts may be used in early production sets only. New parts may be used in late production sets only. Stock both original and new parts.
E	Others

Part Number

Ref. No.	Original Part No.	New Part No.	Part Name & Descriptions	Pcs	I/C	Remarks
4-101	——	VSC4463	FRONT SHIELD SHEET	1	B	
4-102	——	VSC4464	REAR SHIELD	2	B	
4-103	——	VMZ2583	ISOLATOR	2	B	
4-104	——	VMX2334	SPACER	7	E	
4-14	VGM0793	VGM1327	TOP PANEL	1	B	
4-43	VKU0361	VKU0518	BOTTOM PLATE	1	B	

TM2-3191

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Order No. VSD9609S601
VIDE-V00638

Service Manual

Supplement

Video Product

Subject : Addition of Key Board component Parts

Please use this supplement together with the Service Manual as follows :

Model No.	Bulletin No.	Order No.
AG-5700-E/B	19	VSD9202M619

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP06770B	P. C. BOARD W/COMPONENT	1	(RTL)
		KEY BOARD		
C6501	ECEA0JKA101	E. CAPACITOR 6. 3V 100U	1	
C6502	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C6503	ECEA1HKAR22	E. CAPACITOR 50V 0. 22U	1	
C6504-06	ECUM1H101JCN	C. CAPACITOR CH 50V 100P	3	
C6507	ECUM1H180JCN	C. CAPACITOR CH 50V 18P	1	
C6508	ECUM1H150JCN	C. CAPACITOR CH 50V 15P	1	
C6509	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C6510	ECEA1HKA3R3	E. CAPACITOR 50V 3. 3U	1	
C6511	ECEA1CKA330	E. CAPACITOR 16V 33U	1	
C6512. 13	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C6514	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
C6518. 19	ECUM1H223ZFN	C. CAPACITOR CH 50V 0. 022U	2	
C6520. 21	ECUM1H103ZFN	C. CAPACITOR CH 50V 0. 01U	2	
C6522	ECEA0JKA221	E. CAPACITOR 6. 3V 220U	1	
C6523	ECEA1AKS221	E. CAPACITOR 10V 220U	1	
C6524	ECUM1H104ZFN	C. CAPACITOR CH 50V 0. 1U	1	
D6501-08	MA151WK	DIODE	8	<R>
D6509. 10	MA151K	DIODE	2	<R>
DP6501	VSL0252	DISPLAY TUBE	1	
IC6501	UPD75328G529	IC	1	<R>
IC6502	MN1280R	IC	1	<R>
IC6503	VCR0172	IC	1	<R>
L6501. 02	VLQEL05K121J	COIL 120UH	2	
L6504. 05	VLQEL05H471J	COIL 470UH	2	
L6506. 07	VLQEL05K221J	COIL 220UH	2	
LD6501	LN043572P	LED	1	<R>
LD6502	LN81RCPHL	LED	1	<R>
LD6503	LN024571P	LED	1	<R>
LD6504	LN023571P	LED	1	<R>
LD6505	LN012570P	LED	1	<R>
P6501	VJS2188	CONNECTOR	1	
P6502	VJS2186	CONNECTOR (FEMALE)	1	
QR6501-04	MRN2402	TRANSISTOR-RESISTOR	4	<R>

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R6501	VRE0034E621	M. RESISTOR CH 1/10W 620	1	
R6502	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R6503	ERJ6GEYG752	M. RESISTOR CH 1/10W 7. 5K	1	
R6504	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R6505	ERJ6GEY0R00	M. RESISTOR CH 1/10W 0	1	
R6506	VRE0034E621	M. RESISTOR CH 1/10W 620	1	
R6507	ERJ6GEYG752	M. RESISTOR CH 1/10W 7. 5K	1	
R6508	ERJ6GEYG102	M. RESISTOR CH 1/10W 1K	1	
R6509-12	ERJ6GEYG681	M. RESISTOR CH 1/10W 680	4	
R6513	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R6514. 15	ERJ6GEYG390	M. RESISTOR CH 1/10W 39	2	
R6516	ERJ6GEYG221	M. RESISTOR CH 1/10W 220	1	
R6517. 18	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R6519	VRE0034E153	M. RESISTOR CH 1/10W 15K	1	
R6520	VRE0034E392	M. RESISTOR CH 1/10W 3. 9K	1	
R6521	VRE0034E683	M. RESISTOR CH 1/10W 68K	1	
R6522. 23	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R6524	ERJ6GEYJ471	M. RESISTOR CH 1/10W 470	1	
R6525. 26	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	2	
R6527	ERJ6GEYG331	M. RESISTOR CH 1/10W 330	1	
R6528-30	ERJ6GEYG104	M. RESISTOR CH 1/10W 100K	3	
R6531	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	1	
R6532	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	1	
R6533	ERJ6GEYG681	M. RESISTOR CH 1/10W 680	1	
R6534-39	ERJ6GEYF473	M. RESISTOR CH 1/10W 47K	6	
R6540	ERJ6GEYG103	M. RESISTOR CH 1/10W 10K	1	
R6541	ERJ6GEYF472	M. RESISTOR CH 1/10W 4. 7K	1	
SW6501-04	EVQQS307K	SWITCH	4	<R>
SW6505. 06	EVQQEC05K	SWITCH	2	<R>
SW6507	EVQQS307K	SWITCH	1	<R>
SW6508	EVQQEC05K	SWITCH	1	<R>
SW6509-13	EVQQS307K	SWITCH	5	<R>
SW6514. 15	EVQQEC05K	SWITCH	2	<R>
VR6501. 02	EVUF3AF15B24	V. RESISTOR 20K	2	
VR6503	EVJYB0F15C23	V. RESISTOR 2K	1	
X6501	VSX0140	CRYSTAL OSCILLATOR	1	<R>
		MISCELLANEOUS		
	VJF0948	LCD HOLDER	1	
	VMX0473	LED HOLDER	1	
	VWJ08KT90QQ	FLEXIBLE CABLE	1	

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